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Annexure to Addendum-2

Note: This document has been provided only for the convenience and reference of the bidders. In case of any contradictions found in the tender documents, the originally uploaded tender documents read with all corrigenda and addendums uploaded on the KPP portal shall be considered, and not the Annexure document.

For reference purpose only

GOVERNMENT OF KARNATAKA

VOLUME: I

REQUEST FOR PROPOSAL

APPOINTMENT OF CONCESSIONAIRE ON TIPPING FEE BASIS TO EXECUTE THE COMPREHENSIVE INTEGRATED SOLID WASTE MANAGEMENT (ISWM) FACILITIES INCLUDING SECONDARY TRANSPORTATION OF MSW FROM TRANSFER STATIONS TO DESIGNATED PROCESSING CENTERS AND FURTHER PROCESSING AND DISPOSAL OF THE SAME

in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (*PPP mode – DBFOT Model*)

(Call-2)

BENGALURU SOLID WASTE MANAGEMENT LIMITED (BSWML)

No. 30/1, 1st and 2nd Floor, UNI Buildings, Thimmaiah Road, Vasanth Nagar,

Bengaluru – 560 002.

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DISCLAIMER

The information contained in this Request for Proposals document ("RFPs") or subsequently provided to Bidders, whether verbally or in documentary or any other form by or on behalf of the Authority or any of their employees or advisers, is provided to Bidders on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an agreement and is neither an offer nor invitation by the Authority to the prospective Bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in the formulation of their Proposals pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by the Authority in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for the Authority, their employees or advisers to consider the objectives, technical expertise and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in this RFP, may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidders is on a wide range of matters, some of which depends upon interpretation of law. The information given is not an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The Authority accept no responsibility for the accuracy or otherwise for any interpretation or opinion on the law expressed herein.

The Authority, their employees and advisers make no representation or warranty and shall have no liability to any person including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, reliability or completeness of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way in this Selection Process.

The Authority also accept no liability of any nature whether resulting from negligence or otherwise, howsoever caused, arising from reliance of any Bidder upon the statements contained in this RFP.

The Authority may in their absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or

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assumption contained in this RFP.

The issue of this RFP does not imply that the Authority are bound to select a Bidder or to appoint the Selected Bidder, as the case may be, for the Project and the Authority reserves the right to reject all or any of the Proposals without assigning any reasons whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its Proposal including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by the Authority or any other costs incurred in connection with or relating to its Proposal. All such costs and expenses will remain with the Bidder and the Authority shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the Proposal, regardless of the conduct or outcome of the Selection Process.

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GLOSSARY

Associate	As defined in Clause 2.3.3
Authorised Representative	As defined in Clause 2.13.2
Authority	Authority means Managing Director/ BSWML or his authorized representative.
Bidder	As defined in Clause 2.1.1
Bid Price Sheet	As provided in Form - 2 of Appendix -II
Bid Security	As defined in Clause 2.20.1
Client	M/s Bengaluru Solid Waste Management Limited (BSWML)
Coercive Practice	As defined in Clause 4.3
Concession Agreement	As defined in Clause 1.1.5
Concessionaire	As defined in Clause 1.1.5
Conditions of Eligibility	As defined in Clause 2.2.2
Conflict of Interest	As defined in Clause 2.3.1
Corrupt Practice	As defined in Clause 4.3
CV	Curriculum Vitae
DBFOT	Design, Build, Finance, Operate and Transfer
Eligible Assignments	As defined in Clause 3.1.4
Financial Proposal	As defined in Clause 2.15.1
Fraudulent Practice	As defined in Clause 4.3
INR, Re, Rs.	Indian Rupee(s)
Joint Bidding Agreement	As defined in Clause 2.16.7
Joint Venture / Consortium	As defined in Clause 2.1.1
Key Personnel	As defined in Clause 2.1.4
Lead Member	As defined in Clause 2.16.7
LOA	Letter of Award as defined in Clause 2.28
Member	As defined in Clause 2.3.3
Net Worth	As provided in Clause 2.16.3
Official Website	As defined in Clause 1.11.2
PPP	Public Private Partnership
Professional Personnel	As defined in Clause 2.14.6
Prohibited Practices	As defined in Clause 4.1
Project	As defined in Clause 1.1.1
Project Area	As defined in Clause 1.1.1

For reference purpose only

Proposal	As defined in Clause 1.2
Proposal Due Date or PDD	As defined in Clauses 1.8
Selected Bidder	As defined in Clause 1.6
Selection Process	As defined in Clause 1.6
Statutory Auditor	An Auditor appointed under Applicable Laws
Subject Person	As defined in Clause 2.3.3
Support Personnel	As defined in Clause 2.14.6
Taxes	means all taxes, levies, imposts, cesses, duties and other forms of taxation, including (but without limitation) income tax, corporation profits tax, advance corporation tax, capital gains tax, residential and property tax, customs and other import and export duties, stamp duty or capital duty, and any interest, surcharge, penalty or fine in connection therewith which may be payable by the Concessionaire.
Technical Proposal	As defined in Clause 2.14.1
Undesirable Practice	As defined in Clause 4.3

The words and expressions beginning with capital letters and defined in this document shall, unless repugnant to the context, have the meaning ascribed thereto herein.

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ABBREVIATIONS

BBMP	Bruhat Bengaluru Mahanagara Palike
BOQ	Bill of Quantities
BSWML	Bengaluru Solid Waste Management Limited.
C&D Waste	Construction & Demolition Waste
C&T	Collection and Transportation
CBG	Compressed Biogas
COD	Commercial Operation Date
CTP	Collection and Transfer Point
DBFOT	Design, Build, Finance, Operate and Transfer
DCA	Draft Concession Agreement
GBA	Greater Bengaluru Authority
GoI	Government of India
GOK	Government of Karnataka
IF	Information Forms
IFT / ITB	Invitation for Tenders / Bidder
ISWM	Integrated Solid Waste Management
JV/C	Joint Venture/Consortium
JV/CA	Joint Venture/Consortium Agreement
KSPCB	Karnataka State Pollution Control Board
LM	Lead Member
LOA	Letter of Award
LTP	Leachate Treatment Plants
MoEF &CC	Ministry of Environment, Forest and Climate Change
MRF	Material Recovery Facilities
MSW	Municipal Solid Waste
P&D	Processing & Disposal
PDD	Proposal Due Date
PIM	Project Information Memorandum
RDF	Refuse Derived Fuel
RFP	Request for Proposal
SLF	Sanitary Landfill Facility
SPV	Special Purpose Vehicle
STD	Standard Tender Document
SW	Solid Waste
SWM	Solid Waste Management
TEC	Tender Evaluation Committee
TPD	Tonnes per Day
ULB	Urban Local Body
UDD	Urban Development Department
BUD	Bengaluru Urban District

For reference purpose only

INVITATION FOR TENDER

For reference purpose only

BENGALURU SOLID WASTE MANAGEMENT LIMITED

Office of the Deputy General Manager-1,BSWML, 1st Floor, BBMP Building, Thimmaiah Road, Vasanth Nagar, Bengaluru – 560 052

****

No: DGM-1/BSWML/TEND/09/2025-26 **Date: 30.08.2025.**

INVITATION FOR SHORT TERM TENDER

(Only through GOK KPP Portal Only)

The Deputy General Manager-1 (Technical), Bengaluru Solid Waste Management Limited (BSWML), on behalf of Managing Director; BSWML invites proposals for the works/services mentioned in the below table.

Sl. No.	Name of the work	Approx. Estimated capital cost of the project in INR in Crores (Excluding GST)		EMD (Amount in Rs.)	Stipulated completion of infrastructure (including monsoon period)
		For Secondary Collection & Transportation (Sec. C&T)	For Processing & Disposal (P&D)		
01.	Appointment Of Concessionaire On Tipping Fee Basis To Execute The Comprehensive Integrated Solid Waste Management (ISWM) Facilities Including Secondary Transportation Of MSW From Transfer Stations To Designated Processing Centers And Further Processing And Disposal Of The Same In **North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone)** of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership ("PPP mode – DBFOT Model) **(Call-2)**	788.00	1124.00	Rs.1,00,000/- through e-payment under of one the following i.e., online / RTGS / NEFT / OTC and the balance Rs.9,55,00,000/- by Bank Guarantee/ FDR issued by Nationalized/ Scheduled Bank	24 Months

NOTE:

1. RFP documents may be downloaded from Government of Karnataka KPP Portal website https://kppp.karnataka.gov.in/#/portal/portal-home under tenders' section. The bid document can be downloaded from the portal as per prescribed date and time published in the portal. Only Interested Service Provider who wishes to participate should remit online transaction fee for tender after registering in the portal. The transaction fee/Bid document/Tender Document fee is non-refundable.
2. Bidders shall quote & submit the bids only online.
3. The quoted rates of tipping fee shall be excluding GST**.**

4. Other details can be seen in the RFP document.

5. Calendar of events:

Last Date for Uploading Pre bid Queries in KPP portal	08.09.2025 upto 17:00 hrs
Pre Bid meeting	09.09.2025 at 16:00 hrs. IPP center, #72/4, 16th cross road, Vyalikaval, Kodandaramapura, Malleshwaram, Bengaluru-560003.
Last Date for submission of Bids	**04.10.2025 before 16:00 hrs.**
Opening of Technical Bid	**06.10.2025 after 16:30 hrs.**

More details can be downloaded from website - https://kppp.karnataka.gov.in

Information in the documents published by BSWML under this proposal is only indicative information as guidelines to bidders. However, the bidders are free to establish their own assessment of the quantity of waste and its physical and chemical characteristics, processing mechanism for Municipal Solid Waste (MSW) and accordingly assess the required infrastructure for transportation, processing & disposal facilities to be deployed for the execution of the project in line with RFP conditions as per MSW rules and guidelines.

The details of Respective package can be seen under as:

Name of the Work	Estimated Capital Cost of the Project (Lifetime)	Estimated Quantum of waste (Tons Per Day)
Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)	For Secondary Transportation: **Rs. 788 Crores**	For Secondary Transportation: **3,822 TPD**
	For Processing & Disposal: **Rs. 1,124 Crores**	For Processing & Disposal: **3,073 TPD**

For reference purpose only

1. The Solid Waste Management Rules 2016 and its amendments throughout the contract need to be adhered to at all times by the selected concessionaire.
2. In the last 3 years preceding the bid due date for submission, if any Bidding entity is blacklisted/ barred by Bengaluru Solid Waste Management Limited ("BSWML") or Bruhat Bengaluru Mahanagara Palike ("BBMP") / any other entity of Government of Karnataka or by any State Government or Central Government / department / Urban local body / agency in India or in foreign country, from participating in bidding process, either individually or as member of a Consortium/JV, then such Bidding entity shall not be eligible to participate in this RFP.
3. Cost of tender document shall be payable as per the e-portal guidelines.
4. It is the responsibility of the bidders to supply following information as part of the technical bid submissions:
    a. Details proving Technical qualification as per the Technical Eligibility criteria
    b. Methodology Statement
    c. Process Flow Chart and Material Balance Statement
    d. Resource Utilization Statement by considering the existing establishments of BSWML/BBMP
    e. Area Allocation Statement
    f. Operations & Maintenance Scheme
    g. Project Schedule
    h. Environment, Health & Safety Policy and Practice
5. The Authority shall not be liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the Tenderers of any tender updates, the Authority shall not be liable for any information not received by the Tenderers. It is the Tenderers responsibility to verify the KPPP portal for the latest information related to the tender, E-mail address of the Helpdesk is support@eprochelpdesk.com KPPP portal help desk telephone numbers are: +91 8046010000/+91 8068948777. The tenderer is required to ensure browser capability of the computer well in advance to the last date and time for receipt of the tenders. The Authority shall not be responsible for non-accessibility of KPPP portal due to internet connectivity issues and technical glitches.

For reference purpose only

6. Eligibility criteria shall be evaluated accordingly. The award of project depends upon the agency satisfying all criteria mentioned in the relevant documents and the decision of the authority is final.
7. The quoted rates shall be excluding GST. Applicable GST shall apply to the concessionaire as per reimbursement claimed based on applicable GST norms
8. The bidder is required to submit a single quote of tipping fee for the entire Project (including Secondary Transport and Processing and Disposal (P&D)). The payment break-up as per the payment schedule vide Article-18 of the Draft Concession Agreement is as follows:

   If the total tipping fee is Rs. 100/TPD, the tipping fee towards Secondary Transportation along with all support infrastructure shall be 50% of the same (i.e., Rs 50/TPD) and Processing & Disposal (P&D) along with all infrastructure shall be 50% of total tipping fee (i.e., Rs.50/TPD). The tipping fee shall be subject to penalties in case of non-adherence to KPIs as per Article 19 of the draft Concession Agreement.

9. The technical evaluation of bidders for the two packages shall be done concurrently & a list of technically qualified bidders for each package shall be prepared. Qualifying marks of 70% out of 100% on the Technical Bid is required to be eligible for opening of the financial quotation and subsequent evaluation (as per Clause 1.6).
10. The financial bids of technically qualified bidders of each package shall be opened and the Bidder with the lowest Financial Bid shall be awarded that project, as per the process detailed in Clause 1.6 of the RFP.
    a. In case there is tie in lowest Financial Bid then the party getting higher marks in technical qualification will be declared as the successful bidder
    b. In case of tie between two or more parties with same technical marks, then the company with higher turnover will be declared selected bidder and awarded the project.
    c. In case of tie between two or more parties and with same technical marks and turnover then the company with higher net worth will be declared selected bidder and awarded the project.
11. It is to notify that one bidder may be awarded both the packages, subject to the Bidder meeting the combined bid capacity under the respective packages.

For reference purpose only

12. The Authority is not bound to accept the lowest bid or any bid. The entire bidding process may be cancelled without assigning any reasons thereof. The decision of the authority is final in this regard.

For reference purpose only

INVITATION FOR PROPOSALS

For reference purpose only

1. INTRODUCTION

A. GENERAL

1.1 Background

1.1.1 The BSWML (the "Authority") acting through and represented by the Government of Karnataka are engaged in the management of Municipal Solid Waste within the jurisdiction area of this package (the "Project Area") in BBMP limits & BUD. The Project Area for this Package shall constitute 4 Zones of BBMP – Yelahanka, Dasarahalli, West, and, East, along with neighboring areas of the Bangalore Urban District, as detailed in Annexure I.

As part of this endeavor, the BSWML have decided to undertake "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)" (herein referred as "The Project") of Bengaluru City" by seeking private sector participation on Public Private Partnership ("PPP") mode by inviting Proposals for the Project.

Bidder can view and download the details of e-tender from website https://kppp.karnataka.gov.in/#/portal/portal-home from the date of uploading on the same site as mentioned in paper notification, on payment of cost of tender document online is as per the e-portal. EMD amount should be paid as per the Invitation for Tender. The Bidders are required to submit bids of this package and Selection Process is as Per KTPP Rules.

Name of the Work	Estimated Capital Cost of the Project (Lifetime)	Estimated Quantum of waste (Tons Per Day)
Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from	For Secondary Transportation: **Rs. 788 Crores**	For Secondary Transportation: **3,822 TPD**

For reference purpose only

Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)	For Processing & Disposal: **Rs. 1,124 Crores**	For Processing & Disposal: **3,073 TPD**

1.1.2 The Project shall be awarded as per KTPP rules on the basis of Technical Evaluation and L1 selection method as per Clause 1.6. The project will be implemented in accordance with SWM Rules – 2016, SBM 2.0 & any other guidelines & amendments made by MOEF&CC, MoHUA or any other competent authority during the Concession Period.

1.1.3 In pursuance of the above, the Authority has decided to carry out the process for selection of a Concessionaire for implementation of the Project in accordance with the Concession Agreement.

1.1.4 The objective of the Project, Scope of Services, Deliverables and Other requirements relating to the project are specified in detail in the RFP / Tender Documents.

1.1.5 The project would be implemented in accordance with the Terms and Conditions stated in the "Concession Agreement" to be executed between the Bengaluru Solid Waste Management Limited (BSWML), i.e., the 'Authority' and the Selected Bidder i.e. the 'Concessionaire'.

1.2 Request for Proposals

The BSWML invite proposals (the "Proposals") for "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)" which includes

For reference purpose only

secondary transportation to the processing facility for Processing & Disposal of Municipal Solid Waste within the jurisdiction area of this package in BBMP limits & BUD for implementation of the Project in conformity with the Concession Agreement. The Authority intend to select the Concessionaire through an open competitive bidding process in accordance with the procedure set out herein.

1.3 Due diligence by Bidders

Bidders are encouraged to inform themselves fully about the assignment and the local conditions before submitting the Proposal by paying a visit to the Authority and the Project Site(s), sending written queries to the Authority and attending a Pre-Bid Conference on the date and time specified in Clause 1.10 of this chapter.

a) The Bidder/ Bidder(s) are encouraged to appraise themselves completely regarding the above project, site conditions including waste composition by visiting the site before submission of the bid.

b) The bidder must meet the eligibility criteria mentioned in the RFP as per Clause 2.2.

c) It is the responsibility of the Bidder to regularly check Public Procurement Portal of Government of Karnataka (GoK) i.e., https://karnatakatenders.gov.infrom time to time for updated, amendments, corrigendum, extensions, if any with respect to this RFP.

1.4 Obtaining RFP Document

RFP document can be downloaded from the Official Website of the Government of Karnataka and Karnataka Public Procurement Portal.

1.5 Validity of the Proposal

The Proposal shall be valid for a period of not less than 180 (One Hundred and Eighty) days from the Proposal Due Date (the "PDD").

1.6 Brief description of the Selection Process

The Authority has adopted a single-stage two envelope selection process (collectively the "Selection Process") for evaluating the Proposals

For reference purpose only

comprising technical and financial bids to be submitted in two separate sealed envelopes along online submission (Financial Bid to be submitted online only).

- Step 1: Qualification of bidders shall be adjudged as per Clause 2.2. The bidders meeting the required criteria of qualification will be noted.
- Step 2: Technical bids of the qualified bidders shall be opened and marked on a scale of 0 to 100, as per Table 3.1.3. Based on this technical evaluation, a short-list of Bidders shall be prepared with Technical Score more than 70%.
- Step 3: In this stage, a financial evaluation will be carried out as specified. Proposals will finally be ranked according to their financial bids. The first ranked Bidder, with the lowest tipping fee required shall be selected for negotiation (the "Selected Bidder").

The details of the selection process can be referred to in this document in detail.

1.7 Currency conversion rate and payment

1.7.1 For the purposes of technical evaluation of Bidders, the conversion rate of the currencies shall be the State Bank of India Telegraphic Transfer Buy rates published by the State Bank of India prevalent on the Proposal Due Date, and the amount so derived in US$ shall be converted into INR at the aforesaid rate.

1.7.2 All payments to the selected Concessionaire shall be made in INR in accordance with the provisions of this RFP. The Concessionaire may convert INR into any foreign currency as per applicable laws and the exchange risk, if any, shall be borne by the Concessionaire.

1.8 Schedule of Selection Process

The Authority would endeavor to adhere to the following schedule:

S.N	Event Description	Date
1	Last date for receiving queries/clarifications	**As per date mentioned in the Invitation for Tender**
2	Pre-Bid Meeting/Pre-Proposal Conference	
3	Authority's response to queries	
4	Proposal Due Date or PDD	
5	Opening of Proposals	

For reference purpose only

6	Letter of Award (LOA)	**As per Authority's decision**
7	Signing of Concession Agreement	
8	Validity of Proposals	**180 days of PDD**

1.9 Pre-Proposal visit to the Site and inspection of data

Prospective Bidders may visit the Site(s) and review the available data at any time prior to PDD. For this purpose, they will provide at least [two] days' notice to the nodal officer specified below:

Deputy General Manager-1
O/o Chief Engineer & Chief General Manager (Tech) Bengaluru Solid Waste Management Limited #30/1, Thimmaiah Road, Millers Tank Bund Area Vasanthnagar, Bengaluru-560 052

For reference purpose only

1.10 Pre-Bid Meeting

Particulars	Description
Date	09.09.2025
Time	04:00 p.m.
Attention to	The Chief Engineer (Technical) Email:- dgm1bswml@gmail.com
Venue	IPP Center, #72/4, 16th cross road, Vyalikaval, Kodandaramapura, Malleshwaram, Bengaluru - 560003

1.10.1 The Bidders who are desirous of seeking any clarification/information from the RFP or relating to this project may do so by sending/submitting their queries via the KPP Portal before 5PM on 08.09.2025. (Date as per Invitation for Tender).

1.10.2 The subject item of the email, communications shall be clearly mentioned as per the following:

1.10.3 "Queries/ Request for Additional Information with respect to Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)"

1.10.4 The Corrigendum/addendum, if any, shall be published by the authority at the KPP portal through the website only.

1.10.5 The Authority shall endeavor to respond to the queries within the period specified therein, but not later than 7 (seven) days prior to the Proposal Due Date. The response to the pre-bid queries shall be uploaded on the e-procurement portal only.

1.10.6 The Authority may also on its own motion, if deemed necessary, issue interpretations and clarifications to all Bidder/Bidders. All clarifications and interpretations issued by the Authority shall be deemed to be part of the Bidding Documents. Verbal clarifications and information given by

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Authority or its employees or representatives shall not in any way or manner be binding on the Authority.

1.11 Communications

1.11.1 All communications relating to the submission of Proposal should be addressed to:

The Deputy General Manager -1
BENGALURU SOLID WASTE MANAGEMENT LIMITED (BSWML)
NO. 30/1, 1st and 2nd Floor, UNI
Buildings, Thimmaiah Road, Vasanth
Nagar, Bengaluru –560 002

1.11.2 This RFP is available at the Karnataka Public Procurement Portal – "BSWML" (https://kppp.karnataka.gov.in) under the RFP titled "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)"

Note: Please refer all the posted and uploaded documents related to this RFP as per the following:

i. Request for the Proposal (RFP)
ii. Draft Concession Agreement (DCA)
iii. Schedules of the Draft Concession Agreement
iv. The Project Information Memorandum (PIM)

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2. INSTRUCTIONS TO BIDDERS

B. GENERAL

2.1 Scope of Proposal

2.1.1 Detailed description of the objectives, scope of services, deliverables and other requirements relating to this Project are specified in this RFP. For determining the eligibility of Bidders for their technical qualification hereunder, the following shall apply:

(a) The term Bidder (the "Bidder") means a single entity or a group of entities (the "Joint Venture"/ "Consortium"), not more than three members (including lead member) as the case may be, coming together to implement the Project. However, no Bidder applying individually or as a member of a Joint Venture/Consortium, as the case may be, can be a member of another Joint Venture/Consortium. The term Bidder used herein would apply to both a single entity and a Joint Venture/Consortium.

(b) A Bidder may either be a company within the meaning of Companies Act, 2013 or duly incorporated under the relevant laws of its country of origin, or a registered partnership firm under Indian Partnership Act, 1932 or duly incorporated under the relevant laws of its country of origin, or sole proprietorship firm owned by citizen of India duly incorporated under the relevant laws of its country of origin, or any combination of them with a formal intent to enter into a Joint Bidding Agreement or under an existing agreement to form a Joint Venture/Consortium. A Joint Venture/Consortium shall be eligible for consideration subject to the conditions set out in this RFP.

2.1.2 Bidders are advised that the selection of Concessionaire shall be on the basis of an evaluation by the Authority through the Selection Process specified in this RFP. Bidders shall be deemed to have understood and agreed that no explanation or justification for any aspect of the Selection Process will be given and that the Authority's decisions are without any right of appeal whatsoever.

2.1.3 The manner in which the Proposal is required to be submitted, evaluated and accepted is explained in this RFP. The Bidder shall submit its Proposal in the

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form and manner specified in this Part-2 of the RFP. The technical proposal shall be submitted in the form at Appendix-I and the financial proposal shall be submitted in the form at Appendix-II. Upon selection, the Bidder shall be required to enter into the Concession Agreement with the Authority in the form at Schedule-I.

2.1.4 Key Personnel

The Bidder shall offer and make available all key personnel meeting the requirements and for discharging the responsibilities specified below (the "Key Personnel"), in line with Clause 3.1.3 (c).

Key Personnel	Responsibilities
[Team Leader]	[He/she will lead, co-ordinate and supervise the multidisciplinary team for implementation of the Project. He/she shall spend at least [30 (thirty) days per quarter] at the Site(s).]
[Safety Expert]	[He/she will be responsible to ensure compliance of the Project with the safety standards under applicable laws and good industry practice. He/she shall spend at least [10 (ten) days per month] at the Site(s).]
[Financial Analyst]	[He/she will be responsible for financial analysis and modeling of the proposed Project. He/she shall spend at least [2 (two) per month] days at the Site(s).]
[Environmental Expert]	[He/she will be responsible for Environmental Impact Assessment of the Project. He/she shall spend at least [7 (seven) days per month] at the Site(s).]

2.2 Conditions of Eligibility of Bidders

2.2.1 Bidders must read carefully the minimum conditions of eligibility (the "Conditions of Eligibility") provided herein. Proposals of only those Bidders who satisfy the Conditions of Eligibility will be considered for evaluation.

2.2.2 To be eligible for evaluation of its Proposal, the Bidder shall fulfil the following:

A. **Technical Capacity:** The Bidder shall have, similar work experience mentioned in Clause 3.1.4.

B. **Financial Capacity**: The Bidder shall have the Financial Capacity as specified in Clause 3.1.5.

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If the bidders are found Eligible as per above criteria, their technical bids will be opened for evaluation.

C. **Availability of Key Personnel:** The Bidder shall offer and make available all Key Personnel meeting the requirements specified in sub-clause (D) below. The said Key Personnel will continue to be available during the Concession Period as agreed under the Concession Agreement. In the event of any such Key Personnel leaving the Bidder selected under this RFP during the Concession Period, he/she shall be replaced by a person with equivalent qualification and experience.

D. **Conditions of Eligibility for Key Personnel:** Each such of the Key Personnel must fulfil the Conditions of Eligibility specified below:

SL. No.	Key Personnel	Educational Qualification	Length of Professional Experience	Experience on eligible Assignments
1	Team Leader	PhD/Postgraduate in any discipline	As per the table 3.1.3 (b)	He/she should have led the project implementation teams for similar assignments.
2	Safety expert	Postgraduate in any discipline along with diploma in industrial safety		He/she should have led the safety compliance teams or worked as a sole expert for similar Assignments.
3	Financial Analyst	PhD/Postgraduate in commerce/ Chartered Accountant or Equivalent		He/she should have undertaken financial analysis and modelling for similar assignments.
4	Environmental expert	Master / bachelor's in environmental science or Equivalent		He/she should have led the environmental impact assessment teams and/ or worked as a sole expert for similar assignments.

2.2.3 The Bidder shall enclose with its Proposal, certificate(s) from its statutory auditors stating its Financial Capacity. In case the Bidder is a Joint Venture/Consortium, the Proposal must be accompanied with the details of each Member and Associate of the Joint Venture / Consortium whose Financial Capacity is considered for evaluation as provided in Clause 3.1.5. In the event that the Bidder does not have a statutory auditor, it shall provide

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the requisite certificate(s) from the firm of chartered accountants that ordinarily audits the annual accounts of the Bidder.

2.2.4 The Bidder should submit a power of attorney as per the format at Form-4 of Appendix- I.

2.2.5 Any entity which has been barred by the Central Government, any State government, a statutory authority or a public sector undertaking, as the case may be, from participating in any project and the bar subsists as on date of proposal, would not be eligible to submit a proposal either itself or through its associate(s).

2.2.6 A Bidder or its associate should have, during the last three years, neither failed to perform on any agreement, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Bidder or its associate, nor been expelled from any project or agreement nor have had any agreement terminated for breach by such Bidder or its associate.

2.2.7 While submitting a Proposal, the Bidder should attach clearly marked and referenced continuation sheets in the event that the space provided in the specified forms in the Appendices is insufficient. Alternatively, Bidders may format the specified forms making due provision for incorporation of the requested information.

2.2.8 The bidders are required to submit the proforma vide Annexure-IV of the self- declaration form printed on a stamp paper of Rs. 100/- and duly notarized to substantiate the information provided vide Clauses 2.2.5 & 2.2.6. If the information submitted the bidder/ bidder is found false at a later date, then such false information submitted by the bidders/ bidders shall be liable for the penal action per the Indian Contract Acts, 1872.

2.3 Conflict of Interest

2.3.1 A Bidder shall not have a conflict of interest that may affect the Selection Process or the Project (the "Conflict of Interest"). Any Bidder found to have a Conflict of Interest shall be disqualified. In the event of disqualification, the Authority shall forfeit and appropriate the Bid Security as mutually agreed genuine pre-estimated compensation and damages payable to the Authority for, inter alia, the time, cost and effort of the Authority including

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consideration of such Bidder's Proposal, without prejudice to any other right or remedy that may be available to the Authority hereunder or otherwise.

2.3.2 The Authority require that the Concessionaire provides professional, objective, and impartial advice and at all times hold the Authority's interest's paramount, avoid conflicts with other assignments or its own interests, and act without any consideration for future work. The Concessionaire shall not accept or engage in any assignment that would be in conflict with its prior or current obligations to other clients, or that may place it in a position of not being able to carry out the assignment in the best interests of the Authority.

2.3.3 Some guiding principles for identifying and addressing Conflicts of Interest have been illustrated in Schedule-3. Without limiting the generality of the above, a Bidder shall be deemed to have a Conflict of Interest affecting the Selection Process, if:

(a) the Bidder, its Joint Venture/Consortium member (the "Member") or Associate (or any constituent thereof) and any other Bidder, its consortium member or Associate (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of a Bidder, its Member or Associate (or any shareholder thereof having a shareholding of more than 5% (five per cent) of the paid up and subscribed share capital of such Bidder, Member or Associate, as the case may be) in the other Bidder, its consortium member or Associate is less than 5% (five per cent) of the subscribed and paid up equity share capital thereof; provided further that this disqualification shall not apply to any ownership by a bank, insurance company, pension fund or a public financial institution referred to in sub-section (72) of section 2 of the Companies Act, 2013. For the purposes of this Clause 2.3.3(a), indirect shareholding held through one or more intermediate persons shall be computed as follows: (aa) where any intermediary is controlled by a person through management control or otherwise, the entire shareholding held by such controlled intermediary in any other person (the "Subject Person") shall be taken into account for computing the shareholding of such controlling

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person in the Subject Person; and (bb) subject always to sub-clause (aa) above, where a person does not exercise control over an intermediary, which has shareholding in the Subject Person, the computation of indirect shareholding of such person in the Subject Person shall be undertaken on a proportionate basis; provided, however, that no such shareholding shall be reckoned under this sub-clause (bb) if the shareholding of such person in the intermediary is less than 26% (twenty six per cent) of the subscribed and paid up equity shareholding of such intermediary; or

(b) a constituent of such Bidder is also a constituent of another Bidder; or

(c) such Bidder or its Associate receives or has received any direct or indirect subsidy or grant from any other Bidder or its Associate; or

(d) such Bidder has the same legal representative for purposes of this Proposal as any other Bidder;

(e) or such Bidder has a relationship with another Bidder, directly or through common third parties, that puts them in a position to have access to each other's information about, or to influence the Proposal of either or each of the other Bidder; or

(f) there is a conflict among this, and other ongoing Projects of the Bidder (including its personnel of the proposed team) and any subsidiaries or entities controlled by such Bidder or having common controlling shareholders. The duties of the Concessionaire will depend on the circumstances of each case. During the implementation of this Project, the Concessionaire shall not take up any Project that by its nature will result in conflict with the present Project; or

(g) the Bidder, its Member or Associate (or any constituent thereof) for the Project, its concessionaire(s) or sub-concessionaire(s) (or any constituent thereof) have common controlling shareholders or other ownership interest; provided that this disqualification shall not apply in cases where the direct or indirect shareholding or ownership interest of an Bidder, its Member or Associate (or any shareholder thereof having a shareholding of more than 5% (five per cent) of the paid up and subscribed share capital of such Bidder, Member or Associate, as the case

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may be,) in the Bidder, or its concessionaire(s) or sub-concessionaire(s) is less than 5% (five per cent) of the paid up and subscribed share capital of such Concessionaire or its concessionaire(s) or sub concessionaire(s); provided further that this disqualification shall not apply to ownership by a bank, insurance company, pension fund or a Public Financial Institution referred to in sub-section (72) of section 2 of the Companies Act, 2013. For the purposes of this sub-clause (h), indirect shareholding shall be computed in accordance with the provisions of sub- clause (a) above.

For purposes of this RFP, Associate means, in relation to the Bidder, a person who controls, is controlled by, or is under the common control with such Bidder (the "Associate"). As used in this definition, the expression "control" means, with respect to a person which is a company or corporation, the ownership, directly or indirectly, of more than 25% (twenty five per cent) of the voting shares of such person, and with respect to a person which is not a company or corporation, the power to direct the management and policies of such person by operation of law or by contract. For the avoidance of doubt, an entity affiliated with the Concessionaire shall include a partner in the Concessionaire's firm or a person who holds more than 5% (five per cent) of the subscribed and paid up share capital of the Concessionaire, as the case may be, and any Associate thereof.

2.4 Number of Proposals

No Bidder or its Associate shall submit more than one Proposal for the Project. A Bidder applying individually or as an Associate shall not be entitled to submit another application either individually or as a member of any Joint Venture/ Consortium, as the case may be.

2.5 Cost of Proposals

The Bidders shall be responsible for all of the costs associated with the preparation of their Proposals and their participation in the Selection Process including subsequent negotiation, visits to the Authority, Site(s) etc. The Authority will not be responsible or in any way liable for such costs,

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regardless of the conduct or outcome of the Selection Process.

2.6 Site(s) visit and verification of information

Bidders are encouraged to submit their respective Proposals after visiting the Site(s) and ascertaining for themselves the Site(s) conditions, traffic, location, surroundings, climate, access to the Site(s), availability of drawings and other data the Authority, Applicable Laws and regulations or any other matter considered relevant by them. [Visits shall be organized for the benefit of prospective Bidders on dates, time and venue as specified in Clause 1.9.]

2.7 Acknowledgement by Bidder

2.7.1 It shall be deemed that by submitting the Proposal, the Bidder has:

(a) made a complete and careful examination of the RFP;

(b) received all relevant information requested from the Authority;

(c) acknowledged and accepted the risk of inadequacy, error or mistake in the information provided in the RFP or furnished by or on behalf of the Authority or relating to any of the matters referred to in Clause 2.6 above;

(d) satisfied itself about all matters, things and information, including matters referred to in Clause 2.6 herein above, necessary and required for submitting an informed Proposal and performance of all of its obligations thereunder;

(e) acknowledged that it does not have a Conflict of Interest; and

(f) agreed to be bound by the undertaking provided by it under and in terms hereof.

2.7.2 The Authority shall not be liable for any omission, mistake or error on the part of the Bidder in respect of any of the above or on account of any matter or things arising out of or concerning or relating to RFP or the Selection Process, including any error or mistake therein or in any information or data given by the Authority.

2.8 Right to reject any or all Proposals

2.8.1 Notwithstanding anything contained in this RFP, the Authority reserves the

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right to accept or reject any Proposal and to annul the Selection Process and reject all Proposals, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons thereof.

2.8.2 Without prejudice to the generality of Clause 2.8.1, the Authority reserves the right to reject any Proposal if:

(a) at any time, a material misrepresentation is made or discovered, or

(b) the Bidder does not provide, within the time specified by the Authority, the supplemental information sought by the Authority for evaluation of the Proposal.

Misrepresentation/ improper response by the Bidder may lead to the disqualification of the Bidder. If the Bidder is a Joint Venture/Consortium, then the entire Joint Venture/Consortium may be disqualified / rejected. If such disqualification / rejection occurs after the Proposals have been opened and the highest-ranking Bidder gets disqualified / rejected, then the Authority reserves the right to consider the next best Bidder, or take any other measure as may be deemed fit in the discretion of the Authority, including annulment of the Selection Process.

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C. DOCUMENTS

2.9 Contents of the RFP

2.9.1 This RFP comprises the Disclaimer set forth hereinabove, the contents as listed below and will additionally include any Addendum / Amendment issued in accordance with Clause 2.11:

Request for Proposal

1	Introduction
2	Instructions to Bidders
3	Criteria for Evaluation
4	Fraud and Corrupt Practices
5	Pre-Proposal Conference
6	Miscellaneous
7	Scope of Work
A.	**Appendices**
	Appendix-I: Technical Proposal
1	Form-1: Letter of Proposal
2	Form-2: Particulars of the Bidder
3	Form-3: Statement of Legal Capacity
4	Form-4A: Power of Attorney for signing of Proposal Form-4B: Power of Attorney for Lead Member of Joint Venture/Consortium
5	Form-5: Financial Capacity of the Bidder
6	Form-6: Particulars of Key Personnel
7	Form-7: Proposed Methodology, Technology and Work Plan
8	Form-8: Proforma of Bank Guarantee for Bid Security
9	Form-9: Format for Joint Bidding Agreement
10	Form-10: Abstract of Eligible Assignments of the Bidder
11	Form-11: Abstract of Eligible Assignments of Key Personnel
12	Form-12: Eligible Assignments of the Bidder
13	Form-13: Eligible Assignments of Key Personnel
14	Form-14: Curriculum Vitae (CV) of Key Personnel and Professional Personnel

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15	Form-15: Deployment of Personnel
16	Form–16: Survey and Field Investigations
17	Form-17: Format of Self-Attested Certificate regarding Associate
18	Form-18: Format of Information on Litigation
19	Form-19: Information regarding Anti-Blacklisting – Affidavit
	Appendix–II: Financial Proposal
1	Form 1: Covering Letter
2	Form 2A: Format for Bid Price Sheet
3	Form 2B: Format for Financial Bid Support Document
4	Form 3: Letter of Declaration
5	Form 4: Declaration Format

2.10 Submission of queries by the Bidders

2.10.1 Bidders requiring any clarification on the RFP may send their queries to the Authority in writing via the KPPP portal before the date mentioned in the Schedule of Selection Process at Clause 1.8, under the e-mail subject:

Queries concerning RFP for "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)" and RFP No.: "…"

The Authority shall endeavor to respond to the queries within the period specified therein but not later than 7 (seven) days prior to the Proposal Due Date. The responses shall be uploaded on the KPP Portal. The Authority will post the reply to all such queries on the Official Website of the Authority / Karnataka Public Procurement Portal as provided in Clause 1.11.2.

2.10.2 For the purposes of determining the cut-off time for submission of queries and Proposals, the central server time displayed on the clock on the

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Karnataka Public Procurement Portal will be followed by the Bidders, and the Authority.

2.10.3 The Authority reserves the right not to respond to any questions or provide any clarifications, in its sole discretion, and nothing in this Clause 2.10 shall be construed as obliging the Authority to respond to any question or to provide any clarification.

2.11 Amendment of RFP

2.11.1 At any time prior to the deadline for submission of Proposal, the Authority may, for any reason, whether at their own initiative or in response to clarifications requested by an Bidder, modify the RFP document by the issuance of Addendum / Amendment and posting it on the Official Website of the Authority / Karnataka Public Procurement Portal and by conveying the same to the prospective Bidders (who have sent queries in respect of the RFP document) by e-mail.

2.11.2 The amendments will also be posted on the Official Website of the Authority / Karnataka Public Procurement Portal along with the revised RFP containing the amendments and will be binding on all Bidders.

2.11.3 In order to afford the Bidders a reasonable time for taking an amendment into account, or for any other reason, the Authority may, at their discretion, extend the Proposal Due Date.

Note: While extending the Proposal Due date on account of an addendum, the authority shall have due regard for time required by bidders to address the amendments specified therein. In the case of significant amendments, at least 15 (fifteen) days shall be provided between the date of amendment and the Proposal Due Date, and in the case of minor amendments, at least 7 (seven) days shall be provided.

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D. PREPARATION AND SUBMISSION OF PROPOSAL

2.12 Language

The Proposal with all accompanying documents (the "Documents") and all communications in relation to or concerning the Selection Process shall be in English language and strictly on the forms provided in this RFP. No supporting document or printed literature shall be submitted with the Proposal unless specifically asked for and in case any of these Documents is in another language, it must be accompanied by an accurate translation of the relevant passages in English, in which case, for all purposes of interpretation of the Proposal, the translation in English shall prevail.

2.13 Format and signing of Proposal

2.13.1 The Bidder shall provide all the information sought under this RFP. The Authority would evaluate only those Proposals that are received in the specified forms and complete in all respects.

2.13.2 The Proposal shall be typed and all supporting documents (submitted online or in hard- copy) shall be signed by the authorized representative (the "Authorised Representative") of the Bidder who shall initial each page, in blue ink. For the purposes of this RFP, the Authorised Representative shall be:

(a) a partner, in case of a partnership firm and/or a limited liability partnership; or

(b) a duly authorised person holding the Power of Attorney, in case of a limited company or a corporation; or

(c) the authorised representative of the Joint Venture/Consortium

A copy of the Power of Attorney certified under the hands of a partner or director of the Bidder and notarised by a notary public in the form specified in Appendix-I (Form-4) shall be annexed to the Proposal.

2.13.3 Bidders should note the Proposal Due Date, as specified in Clause 1.8, for submission of Proposals. Except as specifically provided in this RFP, no supplementary material will be entertained by the Authority, and that evaluation will be carried out only on the basis of Documents received by the closing time of Proposal Due Date as specified in Clause 2.17.1. Bidders

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will ordinarily not be asked to provide additional material information or documents subsequent to the date of submission, and unsolicited material if submitted will be summarily rejected. For the avoidance of doubt, the Authority reserves the right to seek clarifications under and in accordance with the provisions of Clause 2.24.

2.14 Technical Proposal

2.14.1 Bidders shall submit the technical proposal in the formats at Appendix-I (the "**Technical Proposal**").

2.14.2 While submitting the Technical Proposal through online, the Bidder shall, in particular, ensure that:

(a) The Bid Security is provided;

(b) All forms are submitted in the prescribed formats and signed by the prescribed signatories;

(c) Power of Attorney, if applicable, is executed as per Applicable Laws;

(d) CVs of all Professional Personnel have been included;

(e) Key Personnel have been proposed only if they meet the Conditions of Eligibility laid down at Clause 3.1.3 (c) of the RFP;

(f) No alternative proposal for any Key Personnel is being made and only one CV for each position has been furnished;

(g) The CVs have been recently signed and dated in blue ink by the respective Personnel and countersigned by the Bidder. Unsigned / countersigned CVs shall be rejected;

(h) The CVs shall contain an undertaking from the respective Key Personnel about his/her availability for the duration specified in the RFP;

(i) Professional Personnel proposed have good working knowledge of English language;

(j) Key Personnel would be available for the entire Concession Period;

(k) No Key Personnel should have attained the age of 75 (seventy-five) years at the time of submitting the proposal; and

(l) The proposal is responsive in terms of Clause 2.22.2.

2.14.3 Failure to comply with the requirements spelt out in this Clause 2.14 shall make the Proposal liable to be rejected.

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2.14.4 If an individual Key Personnel makes a false averment regarding his qualification, experience or other particulars, or his commitment regarding availability for the Project is not fulfilled at any stage after signing of the Concession Agreement, he shall be liable to be debarred for any future assignment of the Authority for a period of 5 (five) years. The award of the Project to the Applicant may also be liable to cancellation in such an event.

2.14.5 The Technical Proposal shall not include any financial information relating to the Financial Proposal.

2.14.6 The proposed team shall be composed of experts and specialists (the "Professional Personnel") in their respective areas of expertise and managerial/support staff (the "Support Personnel") such that the Concessionaire should be able to complete the Project within the specified time schedule. The Key Personnel specified in Clause 2.1.4 shall be included in the proposed team of Professional Personnel. Other competent and experienced Professional Personnel in the relevant areas of expertise must be added as required for successful completion of this Project. The CV of each such Professional Personnel, if any, should also be submitted in the format at Form-12 of Appendix-I.

2.14.7 The Authority reserves the right to verify all statements, information and documents, submitted by the Bidder in response to the RFP. Any such verification or the lack of such verification by the Authority to undertake such verification shall not relieve the Bidder of its obligations or liabilities hereunder nor will it affect any rights of the Authority thereunder.

2.14.8 In case it is found during the evaluation or at any time before signing of the Concession Agreement or after its execution and during the period of subsistence thereof, that one or more of the eligibility conditions have not been met by the Bidder or the Bidder has made material misrepresentation or has given any materially incorrect or false information, the Bidder shall be disqualified forthwith if not yet appointed as the Concessionaire either by issue of the Letter of Award or entering into of the Concession Agreement, and if the Selected Bidder has already been issued the Letter of Award or has entered into the Concession Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this RFP, be liable to be terminated, by a communication in writing by the Authority

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without the Authority being liable in any manner whatsoever to the Bidder or Concessionaire, as the case may be.

In such an event, the Authority shall forfeit and appropriate the Bid Security as mutually agreed pre-estimated compensation and damages payable to the Authority for, inter alia, time, cost and effort of the Authority, without prejudice to any other right or remedy that may be available to the Authority.

2.15 Financial Proposal

2.15.1 Bidders shall submit the financial proposal in the formats at Appendix-II (the "Financial Proposal") clearly indicating the details of the tipping fee as well as supporting details including cost of the Project in both figures and words, in Indian Rupees, in Karnataka Public Procurement Portal and signed by the Bidder's Authorized Representative. In the event of any difference between figures and words, the amount indicated in words shall prevail. In the event of a difference between the arithmetic total and the total shown in the Financial Proposal, the lower of the two shall prevail.

(a) The Financial Proposal submitted by the Bidder shall comprise the Financial Proposal provided in Appendix – II of this RFP.

2.15.2 While submitting the Financial Proposal, the Bidder shall ensure the following:

(a) All the costs associated with the assignment shall be included in the Financial Proposal. These shall normally cover remuneration for all personnel (Expatriate and resident, in the field, office, etc.), accommodation, airfare, equipment, printing of documents, surveys, geo-technical investigations, etc. and for the comprehensive service to be rendered by the concessionaire towards the scope of work mentioned in the Section pertaining to scope of work as per the Article-2 of Draft Concession Agreement. The tipping fee indicated in the Financial Proposal shall be without any condition attached or subject to any assumption and shall be final and binding. In case any assumption or condition is indicated in the Financial Proposal, it shall be considered non-responsive and liable to be rejected.

(b) The Financial Proposal shall take into account all expenses and tax liabilities (excluding GST). For the avoidance of doubt, it is clarified

that all taxes shall be deemed to be included in the costs shown under different items of the Financial Proposal. Further, all payments shall be subject to deduction of taxes at source as per Applicable Laws.

(c) Tipping fee quoted in the Financial Bid shall be the combined price for Secondary Transportation and its associated services and Processing & Disposal and its associated services, as mentioned in the scope of work in **Article-2 of the Draft Concession Agreement.**

(d) All payments to the selected Concessionaire shall be made in INR in accordance with the provisions of this RFP.

In case the annual accounts for the last financial year are not audited and therefore the Bidder cannot make it available, the Bidder shall give an undertaking to this effect, certified by the Statutory Auditor/ Chartered Accountant. In such a case, the Bidder shall provide the audited annual reports for the financial year preceding the latest financial year for which the audited annual report is not being provided.

2.15.3 Bidders may like to ascertain availability of excise/custom duty exemption benefits available in India to the contracts financed under loans/credits obtained under external assistance. They are solely responsible for obtaining such benefits which they have considered in their Proposal and in case of failure to receive such benefits for reasons whatsoever, the Authority will not compensate the Bidder. The Bidder shall furnish along with his Proposal a declaration to this effect in the Declaration Format provided in Form-4 of Appendix-II of this RFP.

2.15.4 Where the Bidder has quoted taking into account such benefits, it must give all information required for issue of certificates in terms of the Government of India Central Excise Notification and Customs Notification as stipulated in Form-4 of Appendix-II of this RFP. In case the Bidder has not provided the required information or has indicated to be furnished later on in the Declaration Format, the same shall be construed that the goods/equipment for which certificate is required is Nil.

2.15.5 To the extent the Authority determine the quantities indicated therein are reasonable keeping in view the proposed methodology and work plan, the

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certificates will be issued, and no subsequent changes will be permitted. The certificate will be issued within [60 (sixty)] days of signing of the Concession Agreement for material, equipment and machinery.

2.15.6 If the Bidder has considered the customs/excise duty exemption for materials/construction equipment to be bought for the work, the Bidder shall confirm and certify that the Authority will not be required to undertake any responsibilities of the Schemes of Government of India or the said exemptions being available during the contract execution, except issuing the required certificate.

2.15.7 The Proposals which do not conform to the above provisions or any condition by the Bidder which makes the Proposal subject to availability of customs duty/Tax exemption for materials/construction equipment or compensation on withdrawal of any variations to the said exemptions will be treated as non-responsive and rejected.

2.15.8 Any delay in procurement of the construction equipment / machinery / goods as a result of the above shall not be entertained as a reason for granting any extension of time.

2.16 Submission of Proposal

2.16.1 E-Tendering Process

(a) The Selection Process will be conducted by way of e-tendering. In order to participate in the Selection Process, a Bidder must procure a digital signature certificate (class II or III) and register on the Karnataka Public Procurement Portal using its digital signature. A digital signature certificate may be procured from a registered certifying authority as stipulated by Controller of Certifying Authorities, Government of India.

(b) In case of a Consortium, the Bidder must register with the Karnataka Public Procurement Portal in the name of the Authorized Representative as provided in Clause 2.13.2, using the digital signature certificate issued in the name of the authorized signatory of the Authorized Representative.

(c) The Bidders are encouraged to visit the e-Procurement Portal to acquaint themselves with the process of submitting their Proposals online.

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(d) The Bidders shall upload the soft copy/scanned copy of the completed Proposal on or before the specified time on the Proposal Due Date on the Karnataka Public Procurement Portal. Proposals submitted by any other means including by post, fax, telex, telegram or e-mail shall not be entertained.

(e) Proposal shall contain an index of submissions. Each page of the submission shall be initialed by the Authorized Representative of the Bidder as per the terms of the RFP. In case the Proposal is submitted on the document downloaded from the Official Website, the Bidder shall be responsible for its accuracy and correctness as per the version uploaded by the Authority and shall ensure that there are no changes caused in the content of the downloaded document. In case of any discrepancy between the downloaded or photocopied version of the RFP and the original RFP issued by the Authority, the latter shall prevail. In case of any discrepancy between the RFP documents uploaded on the Karnataka Public Procurement Portal / Official Website of the Authority, the former shall prevail.

(f) While uploading the Proposal on the Karnataka Public Procurement Portal, the Bidder must ensure that files containing the Proposal and scanned copies of the Bid Security are uploaded separately under the relevant heads (as given in KPPP Portal) in a PDF format. The Bidder shall be required to fill all mandatory forms and fields indicated in the Karnataka Public Procurement Portal at the time of uploading its Proposal.

(g) Upon submitting the Technical Proposals and the Financial Proposals on the Karnataka Public Procurement Portal, the Bidders must affix their digital signature to the Technical Proposal and the Financial Proposal.

(h) The Bidders should ensure the legibility of the documents uploaded to the Karnataka Public Procurement Portal.

(i) The Bidder shall upload the Proposal sufficiently before the specified time on the Proposal Due Date to avoid any technical issues or malfunction in the network caused by heavy traffic of Bidders on the Proposal Due Date. The Authority will not be responsible for any failure, malfunction or breakdown of the electronic system of the Karnataka

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Public Procurement Portal during the uploading process.

(j) The Bidder should check the system generated summary of its proposal submission to confirm successful uploading of its Proposal.

(k) All Proposals uploaded to the Karnataka Public Procurement Portal will be encrypted and the encrypted Proposals can only be opened by the authorised representatives of the Authority at or after the specified time for opening of the Proposals.

(l) Each Bidder shall also submit a hard copy of the original Bid Security, Power of Attorney, Joint Bidding Agreement, Sub-concessionaire Undertaking (if applicable) to the Authority, before the Proposal Due Date.

(m) It is clarified that the Bidder will not be required to submit a hard copy of its Financial Proposal, and if a hard copy of the Financial Proposal is submitted, then the Proposal submitted by such Bidder shall be rejected as being non-responsive.

(n) The Bidder will contain no alterations, omissions or additions, unless such alterations, omissions or additions are signed by the authorized signatory of the Bidder/Lead Member. Any interlineations, erasures, or overwriting will be valid only if they are signed by the authorized signatory of the Bidder/Lead Member.

(o) The hard copy of the Bid Security, Power of Attorney, Joint Bidding Agreement, Sub concessionaire Undertaking (if applicable), etc. will be duly sealed in an envelope, which will be super-scribed as:

"Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)"

TECHNICAL PROPOSAL

"**DO NOT OPEN BEFORE SPECIFIED TIME FOR OPENING OF PROPOSALS**"

(p) The sealed envelope containing the Bid Security, Power of Attorney,

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Joint Bidding Agreement, etc., will clearly indicate the name, address and contact details of the Bidder. If the envelope is not sealed, marked and submitted as instructed in Clause 2.16.1, The Authority assumes no responsibility for the misplacement or premature opening of the contents of the envelope and consequent losses, if any, suffered by the Bidder.

(q) The hard copy of the Bid Security, Power of Attorney, Joint Bidding Agreement, etc. will either be hand delivered or sent by registered post acknowledgement due or courier to the address provided in Clause 1.11.

(r) The Authority will not be responsible for any delays, loss or non-receipt of Proposals.

2.16.2 The Technical Proposal shall contain:

(a) Application in the prescribed format provided in Appendix-I and supporting Documents;

(b) Bid Security as specified in Clause 2.20.1;

(c) Incorporation certificate of the company / proof of company registration document/ Memorandum of Association;

(d) Copy of Agreement and letter of award/work order of the client for which technical capacity is claimed;

(e) Certificate(s) (completion or currently operating, as the case may be) from its concerned client(s) in support of "the Technical Capacity" clearly stating the capacity of project (or quantity processed till date in case of currently running project) including performance of the Bidder for the work completed during the contract period of the project in respect of the projects whose experience is claimed:

i. Performance certificate should be issued from the concerned client(s) (certificate issued by the Executive Engineer or equivalent officer) shall only be considered; and

ii. In case a particular work / contract has been jointly executed by the Bidder (as part of a Joint Venture / Consortium), it should further support its claim for the share in work done for that particular work / contract.

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2.16.3 The Financial Proposal shall contain the financial proposal in the prescribed format (Forms 1, 2A, 2B & 3 of Appendix-II). It shall be supplemented with:

(a) Certificate(s) specifying the net worth of the Bidder at the close of the preceding financial year from the PDD and specifying the methodology adopted for calculating such net worth.

(b) Copy of the latest GST Return filed / Copy of PAN Card; Not applicable for foreign Bidder.

(c) GSTIN number; Not applicable for foreign Bidder.

For the purposes of this RFP, "Net Worth" shall mean:

i. **In case of a company**: the aggregate value of the paid-up share capital and all reserves created out of the profits and securities premium account, after deducting the aggregate value of the accumulated losses, deferred expenditure and miscellaneous expenditure not written off, as per the audited balance sheet, but does not include reserves created out of revaluation of assets, write-back of depreciation and amalgamation; and

ii. **In case of any other entity/body corporate**: the aggregate value of the paid-up capital and reserves of such entity, after deducting the aggregate value of the intangible assets.

2.16.4 The Proposal shall be made in the Forms specified in this RFP. Any attachment to such Forms must be provided on separate sheets of paper and only information that is directly relevant should be provided. This may include photocopies of the relevant pages of printed documents.

2.16.5 The tipping fee rates quoted in the Financial shall be for the first year after COD, after which an annual escalation of 5% on the accepted rate shall be made as per the Concession Agreement.

2.16.6 Copy of Technical Proposal including original Bid Security, Power of Attorney, Joint Bidding Agreement and other documents that cannot be submitted online, should be put in separate sealed envelopes and the sealed envelopes together with the documents listed in Technical Proposal shall be sealed in another cover and delivered to the address provided in Clause 1.11 before the date and time provided in Clauses 1.8 and 2.17.

2.16.7 Additional information for submission of Proposal by Joint Venture/Consortium:

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(a) The maximum number of members for Joint Venture / Consortium shall be limited to 3 (Three), including the lead member;

(b) Proposal should contain the information required for each Member of the Joint Venture/Consortium:

i. Members of the Joint Venture/Consortium shall nominate one member as the lead member (the "**Lead Member**"), who shall have [majority or 51%] equity stake/voting rights in the Joint Venture/ Consortium. The nomination of the Lead Member shall be supported by a Power of Attorney, as per the format set forth in Form-IV of Appendix-I, signed by all the other members of the Joint Venture/Consortium. The Members of the Joint Venture/ Consortium shall cumulatively /collectively fulfil all the Conditions of Eligibility;

As per the Draft Concession Agreement Clause 5.7.1, The Selected Bidder shall hold [100% (one hundred per cent)] shareholding in the paid-up Equity capital of the Concessionaire until expiration of [1 (one)] year from COD, [51% (fifty one per cent)] shareholding in the paid-up Equity capital until expiration of [10 (ten)] years from COD and thereafter [26% (twenty six per cent)] shareholding in the paid up equity capital during the remaining Concession Period.

Provided that in case the Selected Bidder is a Consortium of entities, then the lead member (the "Lead Member") of such Consortium and the member whose credentials were considered for prequalification for bid, shall have the majority equity share holding of the paid-up Equity capital of the Concessionaire and that all the members of the Consortium together shall hold [100% (one hundred per cent)] Equity capital of the Concessionaire, until expiry of [1 (one)]year from COD, [51% (fifty one percent)]shareholding in the paid-up Equity capital until expiration of [10 (ten)]years from COD and thereafter [26% (twenty six per cent)]shareholding in the paid-up Equity capital during the remaining Concession period. Provided further that a member of the Consortium meeting either the Technical Capacity or the Financial Capacity shall subscribe at least 10% (ten per cent) of the paid-up and subscribed Equity of the SPV

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until the 2nd (second) anniversary of the COD for member meeting the Technical Capacity and until the 1st (first) anniversary of the COD for the member meeting the Financial Capacity.

ii. In the event, the Joint Venture / Consortium has been declared as the Selected Bidder and issued Letter of Award, all Members of the Joint Venture / Consortium shall sign the Concession Agreement with the Authority. In this regard, it is clarified that all the Members of the Joint Venture / Consortium shall be jointly and severally liable towards the Authority to execute the Project during the Concession Period and irrespective of the failure of any particular Member of the Joint Venture / Consortium, the Authority shall be entitled to call upon the Lead Member or other Member(s) of the Joint Venture/ Consortium to discharge the obligations of the Joint Venture / Consortium;

iii. The Proposal should include a brief description of the roles and responsibilities of each Member of the Joint Venture / Consortium, particularly with reference to financial and technical obligations under the Concession Agreement; and

iv. Members of the Joint Venture/Consortium shall enter into a binding Joint Bidding Agreement (the "**Joint Bidding Agreement**") for the purpose of submitting the Proposal. The Joint Bidding Agreement shall (as provided in Form - 9 of Appendix-I), *inter alia*:

   a. in case the Joint Venture / Consortium is declared as the Selected Bidder, ensure that its shareholding / ownership equity commitments are clearly set out, and state that the Joint Venture / Consortium shall act through the Lead Member in accordance with this RFP, and subsequently carry out all the responsibilities as Concessionaire in terms of the Concession Agreement;

   b. clearly outline the proposed roles and responsibilities of each Member at each stage;

   c. commit the minimum equity shares to be held by each Member in the special purpose vehicle; and include a statement to the effect that all Members of the Joint Venture/Consortium shall

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during the Concession Period, subject to the provisions of the Concession Agreement, be liable jointly and severally for all obligations of the Concessionaire in relation to the Project.

(c) Except as provided under the bidding documents including the RFP, there shall not be any amendment to the Joint Bidding Agreement without the prior written consent of the Authority.

(d) Joint Bidding Agreement should be submitted along with the Proposal. The Joint Bidding Agreement entered into between the members of the Joint Venture / Consortium should be specific to the Project and should fulfil the above requirements, failing which the Proposal shall be considered non-responsive.

(e) No change in the composition of the Joint Venture / Consortium will be allowed subsequent to the submission of the Proposal during the Selection Process.

(f) By submitting the Proposal, the Bidder shall be deemed to have acknowledged and agreed that in the event of a change in control or management of a Member or an Associate whose Technical Capacity and / or Financial Capacity was taken into consideration for the purposes of technical qualification under and in accordance with the RFP which adversely impacts the Project, the Bidder shall inform the Authority forthwith along with all relevant particulars about the same and the Authority may, at their discretion, disqualify the Bidder or withdraw the Letter of Award from the Selected Bidder, as the case may be. In such an event, notwithstanding anything to the contrary contained in the Concession Agreement, the Authority shall forfeit and appropriate the Bid Security or Performance Security, as the case may be, as compensation and damages payable to the Authority for, *inter alia*, time, cost and effort of the Authority, without prejudice to any other right or remedy that may be available to the Authority hereunder or otherwise.

2.17 Proposal Due Date

2.17.1 Proposal should be uploaded on the Karnataka Public Procurement Portal before 4PM on the Proposal Due Date specified in the Invitation for Tender

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through "Online Bidder Enrolment" on the said portal, and submission against the RFP titled "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)" and in the manner and form as detailed in this RFP.

2.17.2 For the purposes of determining the cut-off time for submission of Proposals, the central server time displayed on the clock on the Karnataka Public Procurement Portal will be followed by the Bidders, the Authority.

2.17.3 The Authority may, at their discretion, extend the Proposal Due Date by issuing an Addendum in accordance with Clause 2.11 uniformly for all Bidders.

2.18 Late Proposals

Proposals received by the Authority after the specified time on Proposal Due Date shall not be eligible for consideration and shall be summarily rejected.

2.19 Modification/ substitution/ withdrawal of Proposals

2.19.1 There shall be no alterations, omissions, additions, or any other amendments made to the Proposal once submitted, except to the extent provided in Clause 2.11.

2.19.2 Any alteration / modification in the Proposal or additional information or material supplied subsequent to the Proposal Due Date, unless the same has been expressly sought for by the Authority, shall be disregarded.

2.20 Bid Security

2.20.1 The Bidder shall furnish as part of its Proposal, a bid security **as per the tender notice**. The Selected Bidder's Bid Security shall be returned, upon the Bidder signing the Concession Agreement in accordance with the provisions thereof.

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2.20.2 Any Proposal not accompanied by the Bid Security shall be rejected by the Authority as non-responsive.

2.20.3 The Authority shall not be liable to pay any interest on the Bid Security and the same shall be interest free.

2.20.4 The Bidder, by submitting its Application pursuant to this RFP, shall be deemed to have acknowledged that without prejudice to the Authority's any other right or remedy hereunder or in law or otherwise, the Bid Security shall be forfeited and appropriated by the Authority as the mutually agreed pre-estimated compensation and damage payable to the Authority for, *inter alia*, the time, cost and effort of the Authority in regard to the RFP including the consideration and evaluation of the Proposal under the following conditions:

(a) If a Bidder submits a non-responsive Proposal;

(b) If a Bidder engages in any of the Prohibited Practices specified in Section 4 of this RFP;

(c) If a Bidder withdraws its Proposal during the period of its validity as specified in this RFP and as extended by the Bidder from time to time;

(d) In the case of the Selected Bidder, if the Bidder fails to reconfirm its commitments during negotiations as required vide Clause 2.25.1;

(e) In the case of a Selected Bidder, if the Bidder fails to sign the Concession Agreement or commence the assignment as specified in Clauses 2.29 and 2.30 respectively; or

(f) If the Bidder is found to have a Conflict of Interest as specified in Clause 2.3.

2.21 Performance Security, ESHS Performance Security and O&M Security

2.21.1 The Bidder, by submitting its Application pursuant to this RFP, shall be deemed to have acknowledged that without prejudice to the Authority any other right or remedy hereunder or in law or otherwise, its Performance Security, ESHS Performance Security or O&M Security shall be forfeited and appropriated by the Authority as the mutually agreed pre-estimated compensation and damages payable to the Authority for, inter alia, the time, cost and effort of the Authority in regard to the RFP, including the consideration and evaluation of the Proposal, under the following conditions:

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(a) If a Bidder engages in any of the Prohibited Practices specified in Clause 4.1 of this RFP;

(b) if the Bidder is found to have a Conflict of Interest as specified in Clause 2.3; and

(c) if the Selected Bidder commits a breach of the Concession Agreement.

2.21.2 An amount as specified in the Article 9 of the Concession Agreement shall be deemed to be the Performance Security, ESHS Performance Security and O&M Security for the purposes of this Clause 2.21, which may be forfeited and appropriated in accordance with the provisions of the Concession Agreement.

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E. EVALUATION PROCESS

2.22 Evaluation of Proposals

2.22.1 The Authority shall open the Proposals after 16:30pm on the Proposal Due Date, at the place specified in Clause 1.11.1 and in the presence of the Bidders who choose to attend. The Technical Proposals shall be opened first.

2.22.2 Prior to evaluation of Proposals, the Authority will determine whether each Proposal is responsive to the requirements of the RFP. The Authority may, at their discretion, reject any Proposal that is not responsive hereunder. A Proposal shall be considered responsive only if:

(a) the Technical Proposal is received in the form specified at Appendix-I;

(b) it is received by the Proposal Due Date including any extension thereof pursuant to Clause 2.17;

(c) it is accompanied by the Bid Security as specified in Clause 2.20.1.

(d) it is signed by the Authorised Representative of the Bidder as stipulated in Clauses 2.13;

(e) it is accompanied by the Power of Attorney as specified in Clause 2.2.4;

(f) it contains all the information (complete in all respects) as requested in the RFP;

(g) it does not contain any condition or qualification; and

(h) it is not non-responsive in terms hereof.

2.22.3 The Authority reserves the right to reject any Proposal which is nonresponsive and no request for alteration, modification, substitution or withdrawal shall be entertained by the Authority in respect of such Proposals.

2.22.4 The Authority shall subsequently examine and evaluate Proposals in accordance with the Selection Process specified at Clause 1.6 and the criteria set out in Section 3 of this RFP.

2.22.5 After the technical evaluation, the Authority shall prepare a list of prequalified and shortlisted Bidders in terms of Clause 3.2 for opening of their Financial Proposals. A date, time and venue will be notified to all Bidders for announcing the result of evaluation and opening of Financial

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Proposals. Before opening of the Financial Proposals, the list of pre-qualified and shortlisted Bidders along with their Technical Score will be read out. The opening of Financial Proposals shall be done in presence of respective representatives of Bidders who choose to be present. The financial evaluation and final ranking of the Proposals shall be carried out in terms of Clauses 3.3 and 3.4.

2.22.6 Any information contained in the Proposal shall not in any way be construed as binding on the Authority, their agents, successors or assigns, but shall be binding against the Bidder if the Project is subsequently awarded to it.

2.23 Confidentiality

Information relating to the examination, clarification, evaluation, and recommendation for the selection of Bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional adviser advising the Authority in relation to matters arising out of or concerning the Selection Process. The Authority shall treat all information, submitted as part of the Proposal, in confidence and shall require all those who have access to such material to treat the same in confidence. The Authority may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/or the Authority or as may be required by law or in connection with any legal process.

2.24 Clarifications sought by the Authority

2.24.1 To facilitate evaluation of Proposals, the Authority may, at their discretion, seek clarifications from any Bidder regarding its Proposal. Such clarification(s) shall be provided within the time specified by the Authority for this purpose. Any request for clarification(s) and all clarification(s) in response thereto shall be in writing.

2.24.2 If a Bidder does not provide clarifications sought under Clause 2.24.1 above within the specified time, its Proposal shall be liable to be rejected. In case the Proposal is not rejected, the Authority may proceed to evaluate the

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Proposal by construing the particulars requiring clarification to the best of its understanding, and the Bidder shall be barred from subsequently questioning such interpretation of the Authority.

F. APPOINTMENT OF CONCESSIONAIRE

2.25 Negotiations

2.25.1 The Selected Bidder may, if necessary, be invited for negotiations. The negotiations shall generally not be for reducing the price of the Proposal but will be for re-confirming the obligations of the Bidder under this RFP. Issues such as deployment of Key Personnel, understanding of the RFP, proposed methodology, technology and work plan may be discussed during negotiations. A Key Personnel who did not score [60% (sixty per cent)] marks as required under Clause 3.1.2 shall be replaced by the Bidder with a better candidate to the satisfaction of the Authority. In case the Selected Bidder fails to reconfirm its commitment, the Authority reserves the right to cancel the tender.

2.25.2 The Authority will examine the CVs of all other Professional Personnel and those not found suitable shall be replaced by the Bidder to the satisfaction of the Authority.

2.26 Substitution of Key Personnel

2.26.1 The Authority will not normally consider any request of the Selected Bidder for substitution of Key Personnel as the scoring of the Bidder is based on the evaluation of Key Personnel and any change therein may upset their technical eligibility. Substitution will, however, be permitted if the Key Personnel is not available for reasons of any incapacity or due to health, subject to equally or better qualified and experienced personnel being provided to the satisfaction of the Authority.

2.26.2 The substitution of Key Personnel with a candidate of similar experience or more relevant experience shall be accepted during the course of the execution of contract, due to exceptional reasons which would be beyond the control of the concessionaire. Such Substitute shall always have sufficient overlap period for transition, unless the replacement is done due to sudden health reasons. The substitution must be done after approval from the Authority. If

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the substitution is not made in line with these conditions, a sum equal to 20% (twenty percent) of the remuneration specified for the original Key Personnel shall be deducted from the payments due to the Applicant. In the case of a second such substitution hereunder, such deduction shall be 50% (fifty percent) of the remuneration specified for the original Key Personnel. Any further such substitution may lead to disqualification of the Applicant or Termination of the Agreement.

2.26.3 Substitution of the Team Leader will not normally be considered and may lead to disqualification of the Bidder or termination of the Agreement, if the reasons are not acceptable to the Authority.

2.27 Indemnity

The Bidder shall, subject to the provisions of the Agreement, indemnify BSWML for any direct loss or damage that is caused due to any deficiency in services. The indemnity of the contract shall be dealt as per Section 124 of the Indian Contract Act,1872.

2.28 Award of Project

2.28.1 After selection, a Letter of Award (the "LOA") shall be issued, in duplicate, by the Authority to the Selected Bidder:

(a) declaring it as the Selected Bidder;

(b) accepting its Technical and Financial Proposal;

(c) requesting it to sign and return, as acknowledgement, a copy of the LOA within 7 (seven) days of receipt of the LOA;

(d) requesting it to submit the Performance Securities and O&M Security in accordance with Clause 2.21; and

(e) requesting it to incorporate the Special Purpose Vehicle, which will act as the Concessionaire.

2.28.2 If the Selected Bidder fails to return a duly signed copy of the LOA to the Authority within 7 (seven) days of receipt of the LOA, then the Authority may, unless they consent to an extension, without prejudice to any of its rights under the RFP or law, disqualify the Selected Bidder, revoke the LOA, and forfeit the Bid Security. If the Authority elect to disqualify such Selected Bidder and revoke the LOA, then the procedure set out in Clause 2.29.6 shall

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follow.

2.28.3 After notification of award in accordance with Clause 2.28.1, the Authority shall publish the same on the Karnataka Public Procurement Portal, results of the Selection Process as per the KTPP Act.

2.29 Execution of the Concession Agreement

2.29.1 After acknowledgement of the LOA as aforesaid by the Selected Bidder, the Special Purpose Vehicle incorporated by the Selected Bidder shall execute the Concession Agreement as prescribed in Clause 1.8.

2.29.2 If the Special Purpose Vehicle fails to execute the Concession Agreement on or before the date specified in LOA, the Authority may, unless they consent to an extension, without prejudice to any of their rights under the RFP or law, disqualify the Selected Bidder, revoke the LOA and forfeit the Bid Security. If Authority elect to disqualify such Selected Bidder and revoke the LOA, then the procedure set out in Clause 2.29.6 shall follow.

2.29.3 The Selected Bidder shall not be entitled to seek any deviation in the Concession Agreement except the amendments to reflect facts or to correct minor errors.

2.29.4 If the Selected Bidder seeks to materially negotiate or seeks any material deviations from the final execution draft of the Concession Agreement, the Authority may elect to disqualify the Selected Bidder and revoke the LOA issued to the Selected Bidder. If the Authority elect to disqualify such Selected Bidder and revoke the LOA, then the procedure set out in Clause 2.29.6 shall follow.

2.29.5 If the Authority elect to disqualify such Selected Bidder and revoke the LOA, the Authority will not be liable in any manner whatsoever to the Selected Bidder. Additionally, the Authority will have the right to forfeit and appropriate the Bid Security or, as the case may be, appropriate an equivalent amount from the Performance Security if the Concession Agreement has been executed, as a mutually agreed genuine pre-estimate of the loss suffered by the Authority for, amongst others, the Authority's time, cost and efforts in conducting the Selection Process. Such forfeiture will be without prejudice to any other right or remedy that the Authority may have under the RFP, the

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Concession Agreement or Applicable Laws.

2.29.6 If the Authority elects to disqualify such Selected Bidder and revoke the LOA, the Authority reserves the right to:

(a) select the next highest-ranking Bidder as the Selected Bidder for the Project; or

(b) take any such measure as may be deemed fit in the discretion of Authority, including inviting fresh Financial Proposals from the technically qualified Bidders or annulling the entire Selection Process.

2.30 Commencement of Project

The Bidder shall commence the implementation of the Project at the Site(s) within [7 (seven)] days of the execution date of the Concession Agreement, or such other date as may be mutually agreed. If the Bidder fails to either sign the Concession Agreement as specified in Clause 2.29 or commence the Project as specified herein, the Authority reserves the right to cancel the tender. In such an event, the Bid Security of the first ranked Bidder shall be forfeited and appropriated in accordance with the provisions of Clause 2.20.4.

2.31 Proprietary data

Subject to the provisions of Clause 2.23, all documents and other information provided by the Authority or submitted by a Bidder to the Authority shall remain or become the property of the Authority. Bidders and the Bidder, as the case may be, are to treat all information as strictly confidential. The Authority will not return any Proposal, or any information related thereto. All information collected, analysed, processed or in whatever manner provided by the Bidder to the Authority in relation to the Project shall be the property of the Authority.

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3. CRITERIA FOR EVALUATION

3.1 Evaluation of Technical Proposals

3.1.1 In the first stage, the Technical Proposal will be evaluated on the basis of Bidder's experience, its understanding of scope of work and scope of services as set out in the Concession Agreement vide Article 2, proposed methodology, technology and work plan, and the experience of Key Personnel. Only those Bidders whose Technical Proposals get a score of [70 (seventy) marks] or more out of 100 (one hundred) shall qualify for further consideration.

3.1.2 Each Key Personnel must score a minimum of [60% (sixty per cent)] marks except as provided herein. A Proposal shall be rejected if the bidder scores less than [60% (sixty per cent)] marks for any key personnel, in line with Table 3.1.3 (c).

3.1.3 The scoring criteria to be used for evaluation shall be as follows:

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3.1.3 (a) The detailed scoring criteria to be used for evaluation is as follows:

Clause 3.1.3 (a) Technical Bid Evaluation Criteria			
SL NO.			**Supporting documents**
Section-A	**Section-A: Experience of the Concessionaire**	**40 Marks**	
Section A1	**Sub-Section A.1: Transportation**	**10 Marks**	
I	**Number of similar assignments:** Bidder should have the experience of having successfully completed similar assignments or have a similar ongoing project since the last 36 months of minimum 1,500 TPD for secondary transportation to processing facilities or landfill sites, with minimum 12 transfer stations: a. More than 3 (three) projects: 6 marks OR b. 2 (two) projects: 4 marks OR c. 1(one) project: 2 marks	(6 **marks**)	Letter of Acceptance/ Work order, Agreements, Completion certificate and Work done certificates
II	**Other relevant assignments or similar work:** Bidder should have the experience of having successfully completed (or have a similar ongoing project since the last 36 months) Secondary Transportation using compactor/container/equivalent to transport municipal waste to processing facilities or landfill sites with GPS/ RFID/ Mobile/Vehicle tracking Mechanism for the contract size of minimum 300 TPD. 3 works: 3 marks 2 works: 2 marks 1 work: 1 mark	(3 **marks**)	Letter of Acceptance/ Work order, Agreements, Completion certificate and Work done certificates and certificates along with proof for GPS/RFID execution
III	**Overall experience of the bidder**	(1 **mark**)	Letter of Acceptance/ Work

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	If the bidder executed the contracts for Secondary transportation by deploying hook loaders and maintained at-least 2 Transfer stations: 1 mark		order, Agreements, Completion certificate and Work done certificates
Section A2	**Sub-Section A-2: Processing & Disposal (P&D)**	**Maximum 30 Marks**	
I	**Number of similar Assignments** Bidder should have the experience of having successfully completed (or have a similar ongoing project where processing is ongoing since the last 36 months) similar assignments as per clause 3.1.4 (b): a. More than 4 projects: 9 marks OR b. 2 to 4 project: 6 marks c. 1 project: 3 marks	**9 marks**	Letter of Acceptance/ Work order, Agreements, Completion certificate and Work done certificates
II	**The comparative size and quality of Eligible Assignments**: a. If the bidder successfully constructed and done O&M of a WTE plant for the generation of electricity with minimum size of the plant being 14MW during last 5 years and the plant is running successfully as on PDD as per Clause 3.1.3: 6 Marks AND If the bidder successfully constructed and O&M of the Bio-gas of 600 TPD/composting plant for the MSW of at-least 1,200 TPD: 6 Marks **b.** If the bidder executed O&M of leachate treatment plant within the project site & sanitary landfill for continuous three years or more in India or Abroad in the period of at-least past five years before the PDD and the contract is in operational condition as on date of PDD: 3 Marks	**9 marks**	Letter of Acceptance/ Work order, Agreements, Completion certificate and Work done certificates and certificates for the satisfactory completion of the scope of the deliverable and KPI achievements with financial target achievements if any
III	**Other relevant assignments or similar work:** If bidder have executed SWM projects for Processing of the MSW through any approved technologies by any statutory body in India or abroad are executed on DBFOT model with minimum 50% of the bidder's investment for project size of minimum 250 TPD during last 5 years and project should be in operational condition as on PDD.	**9 marks**	Letter of Acceptance/ Work order, Agreements, Completion certificate and Work done certificates and certificates along with the proof of DBFOT

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	2 projects: 9 marks. OR 1 Project: 6 Marks		
IV	**Overall experience of the bidder:** a. If bidder is in business for more than 4 years: 3 marks b. If bidder is in business for more between 2 to 4 years: 2 marks c. If less than 2 years: 0 marks	3 **marks**	Articles of association, MOU, company registration certificate under the company act/ any proof for the registration, GST, PAN
Section-B	**Proposed Methodology, Technology and Work Plan**	**30 Marks**	
1	1. **Methodology: 8 Marks**:	8 Marks	A detailed Presentation to be given by all the bidders. 50% marks indicated against each sub section of section B shall be towards the technical presentation and balance 50 % shall be for the submittals.
	a) Understanding the Project: 3 Marks		
	b) Review on existing scenarios: 3 Marks		
	c) Site study report: 2 marks		
2	**2. Technologies proposed: 8 Marks** a) Schematic proposal for the Technologies for Processing: 3 Marks b) Process Flow Chart: 1 Marks c) Material Balance Statement: 1 Marks d) Schematic proposal & plan for Sanitary Landfill: 2 Marks e) Schematic proposal & plan for Leachate Treatment Plant: 1 Marks	8 Marks	
3	**3. Infrastructure Assessment: 10 Marks**	10 Marks	
	a) Infrastructure proposed:2 Marks		
	b) Resource Utilization Statement: 2 Marks		
	c) Overall layout scheme:2 Marks		
	d) Implementation Schedule: 2 Marks		
	e) Operation & Maintenance Scheme:2 Marks		
4	**4. Environment, Health & Safety Policy & Strategy: 4 Marks**	4 Marks	
Section-C	**Relevant Experience of the Key Personnel**	**30 Marks**	
1	Team Leader – 9 marks	9 Marks	As per Table 3.1.3b
2	Safety Expert – 6 marks	6 Marks	
3	Financial Analyst – 8 marks	8 Marks	
4	Environmental Expert – 7 marks	7 Marks	
	Total	**100 Marks**	**-**

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3.1.3 (b) Break up of Marking proposed for Key personnel

S. No.	Description of the position	Marks Proposed							
		Academic Qualification		**Experience**		**Similar Assignments**		**Number years with firm**	
			Marks	No. of Years	Marks	No. of Works	Marks		Mark s
1	Team Leader (9 Marks)	PhD/ PG	2	If more than 15 years	3	2	2	More than 4 years	2
		Graduate	*1*	*10 to 14 years*	2	1	1	Between 2-4 years	1
				5 to 9 years	1				
				< 5 years	0				
2	Safety Expert (6 Marks)	Graduate	1	*10 to 14 years*	2	2	2	Between 1-4 years	1
				5 to 9 years	1	1	*1*	1-2 years	*1*
3	Financial Analyst (8 Marks)	PhD/PG	2	5-9 years	2	2	2	*Between 2-4 years*	2
		Graduate	*1*	2-5 years	1	1	1	*1-2 years*	1
4	Environmental Expert (7 Marks)	PG/PhD/	2	5-9 years	2	2 works	2	*Between 1-4 years*	1
		Graduate	*1*	2-5 years	1	1 work	1		

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Note:

1. Academic certificates shall be taken as proof of their qualification and date of the start of the experience which will be considered from the attested qualification testimonials submitted by the expert with the submittals
2. Experience shall be calculated based on the proof of the information submitted along with CV which will be reckoned from the date of the highest qualification certificate or from the date of the first employment in the similar filed whichever is early
3. Similar Assignments shall be considered from the reference from the CV and if required cross verification shall be carried
4. Number of years with firm shall be considered with the proof of salary certificate along with the PF certificates issued by the bidders

3.1.3 (c) Conditions of Eligible for Key personnel: Each of the Key personnel must fulfil the conditions of the eligibility specified below:

S.N	Description of the Position of key personnel	Educational Qualification	Length of Professional Experience	Experience on eligible Assignments
1	Team Leader	PhD/Postgraduate in any discipline	As per the table 3.1.3 (b)	He should have led the project of similar nature of the projects
2	Safety expert	Postgraduate in any discipline along with atleast diploma in industrial safety	As per the table 3.1.3 (b)	He should have led the safety compliance teams or worked as a sole expert for similar Assignments
3	Financial Analyst	Postgraduate in commerce / Chartered Accountant or Equivalent	As per the table 3.1.3 (b)	He should have undertaken financial analysis and modelling for the similar scope of any assignments
4	Environmental expert	Master / bachelor's in environmental science or Equivalent	As per the table 3.1.3 (b)	He should have led the environmental impact assessment teams and/ or worked as a sole expert for similar assignments

Note :

I. The Bidder who scores 70 % of total marks in each section A, B & C of Table 3.1.3(a), and 70 out of 100 Marks in Table 3.1.3 (a) would be deemed to meet the required technical experience as per the Qualification Criteria, and shall be considered for opening the Financial bid and for Financial evaluation.

II. The bidders are required to give the presentation on Section-B and need

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to get qualify with minimum 70% marks for the overall presentation and for the weightages given for the section B to consider their proposal for the further process.

III. Experience for any activity relating to the project shall not be claimed by two or more members of the consortium. In other words, no double consideration or counting by a consortium if respect of the same experience shall be permitted in any whatsoever manner.

IV. Bidders who wish to participate in more than 1 package, the bid capacity in terms of financial eligibility (3.1.5 below) should be combined of respective packages, and the proposed Key Personnel for both the packages must not overlap at all.

V. The bidders must provide the necessary information and supporting document related to the Technical Capacity and Financial Capacity.

VI. The financial bids of technically qualified bidders of each package shall be opened, as per Clause 1.6, and the bidder with the least quoted amount of tipping fee shall be first ranked and eligible for the award of the project

a. In case there is tie in the lowest Financial Bid then the party getting higher marks in technical qualification will be declared as the successful bidder

b. In case of tie between two or more parties and with same technical marks, then the company with higher turnover will be declared selected bidder and awarded the project.

c. In case of tie between two or more parties and with same technical marks and turnover then the company with higher net worth will be declared selected bidder and awarded the project.

3.1.4 Similar Assignments

For the purposes of determining Conditions of Eligibility and for evaluating the Proposals under this RFP, the following projects shall be deemed as similar assignments (the “Eligible Assignments”). The similar Assignments should be in operation for continuous three years or more in India or Abroad in the period of past five years from the PDD under the following:

Experience towards Construction and Operations & Maintenance of Wet Waste Processing and Treatment through Compositing of 600 TPD capacity

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OR Construction and O&M of Bio-methanation plant from MSW waste of 300 TPD capacity.

AND

Experience in construction and O&M of Waste to Energy plant to generate electricity from MSW of 7MW capacity.

3.1.5 Financial Capacity

To demonstrate its financial capacity to undertake the Project (Financial Capacity), the Concessionaire must meet each of the financial qualification criteria specified in this Clause 3.1.5.

(a) Net worth

(i) In Financial Year preceding the Proposal Due Date, the Bidder's Net Worth (as per the audited annual financial statements) shall be at least INR [20% of the Estimated Project Cost].

(ii) If the Bidder is a Consortium, then the Net Worth, as required in Clause 3.1.5 (a) (i) above shall be demonstrated cumulatively, i.e., the Consortium as a whole should meet the requirement. Provided further that if the Bidder is subsequently declared the Selected Bidder for the Project, then any Member of the Consortium whose Net Worth was assessed for the purposes of demonstrating that the Consortium has the Financial Capacity to undertake the Project, shall hold at least 10% (ten per cent) shareholding in the paid up and subscribed equity of the concessionaire/SPV until expiry of 1 (one) year from COD.

(iii) A Bidder or a Member of a Consortium may rely on the Net Worth of its Associate(s) for demonstrating its Financial Capacity. In such a case, the Bidder or a Member of a Consortium shall submit an undertaking from the Associate(s) stating that the necessary proportionate equity for the project will be provided for successful implementation of the project. In addition to this, during Financial Closure, necessary board resolution from the Associate(s) has to be submitted to the extent of equity contribution.

For reference purpose only

(b) The Applicant (and in case of a Consortium, any Member) and its Associate(s) (in case the Net Worth of the Associate is being claimed) is not affected by and has not been affected by any of the following events, conditions or circumstances in the [5 (five)] Financial Years immediately preceding the Proposal Due Date, as certified by the statutory auditor of the Applicant (and in case of a Consortium, the statutory auditor of a Member) and its Associate(s) (if applicable):

(i) the Applicant (and the Associate(s), if applicable) having been categorized as a wilful defaulter in accordance with Applicable Laws or laws of the country of its incorporation;

(ii) the Bidder (and the Associate(s), if applicable) being subject to proceedings for declaration of or being declared bankrupt, being wound up, or having its affairs administered or conducted by any court, administrator, receiver; or

(iii) the Bidder (and the Associate(s), if applicable) having been declared by a court or other competent authority as being unable to pay its debts, or having made any composition or arrangements with creditors or having had the repayment of its debts suspended.

(c) The Bidder (and in case of a Consortium, any Member) and its Associate(s) (if applicable) has not been convicted or otherwise being found responsible (or having any of its directors, partners, trustees, officers or managers convicted or being found responsible) by any court, tribunal, regulatory, public or other competent authority for a breach of any laws or regulations which:

(i) related to any act of fraud or dishonesty for which a fine, penalty, damages, compensation or other payment was levied against the Bidder (and the Associate(s), if applicable) or any of its directors, partners, trustees, officers or managers; or

(ii) resulted in the permanent or temporary suspension of the rights of the Bidder (and the Associate(s), if applicable) to provide any service or carry

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on any type of business or operations.

(d) Turnover: The bidder/ JV/ Consortium is required to meet the turnover of minimum 40% of the Estimated Project Cost during any two years during last five years indicated in the Invitation for Tender. If the Bidder is a JV/Consortium, then the Turnover, as required in Clause 3.1.5 (d) above shall be demonstrated cumulatively, i.e., the Consortium as a whole should meet the requirement.

(e) The financial parameters vide 3.1.5 shall be arrived at present value by multiplying factor of 10% to each year compounding to arrive the 2024-25 Financial Year.

3.2 Shortlisting of Bidders

The Bidders scoring equal to or above [70 (seventy)] points after the evaluation of the Technical Proposals, will qualify for financial evaluation. However, if the number of such pre-qualified Bidders is less than two, the Authority may, at their discretion, pre-qualify the Bidder(s) whose technical score is less than [70 (seventy)] points even if such Bidder(s) do(es) not qualify in terms of Clause 3.1.2.

3.3 Evaluation of Financial Proposal

In the third step, the financial evaluation will be carried out as per this Clause 3.3 of those bidders who score equal to or more than 70 marks out of 100 in the Technical Evaluation.

The amount quoted towards tipping fee by the bidder will be considered for ranking of the bidders in an ascending order of their bids.

The bidder with the least quoted amount of tipping fee shall be first ranked and eligible for the award of the Concession Agreement.

3.4 Combined and final evaluation

3.4.1 The Bidder who quotes the lowest Tipping Fee shall be declared as the first ranker i.e. L1 and would be declared as the Selected Bidder, as per Clause 3.3.

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3.4.2 The selected bidder shall be the first ranked bidder (having the lowest Financial bid). In case the first rank bidder withdraws or fails to comply with the requirements specified in Clause 3.1 of Chapter 3 as the case may be, the Authority shall carry out a fresh tendering process.

A) Illustration to explain the Evaluation Process as follows:

STEP 1: QUALIFICATION

Bidder details	**Qualification basis Technical & Financial capacity**
Bidder1	Yes
Bidder2	Yes
Bidder3	Yes
Bidder4	No

STAGE 2: TECHNICAL BID EVALUATION

Bidder details	**Technical Score based on Table 3.1.3 (a)**
Bidder1	80
Bidder2	95
Bidder3	65
Bidder4	(Technical Bid not opened)*

*Since the eligibility criteria was not met

STAGE 3: FINANCIAL BID EVALUATION

Bidder details	**Financial Bid Amount**
Bidder1	1,30,000
Bidder2	1,20,000
Bidder3	(Financial Bid not opened)*

*Since the minimum required technical score of 70/100 was not met

Since Bidder2 has the lowest quoted financial bid, Bidder2 will be declared as the Selected Bidder.

4 FRAUD AND CORRUPT PRACTICES

4.1 The Bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Selection Process. Notwithstanding anything to the contrary contained in this RFP, the Authority shall reject a Proposal without being liable in any manner whatsoever to the Bidder, if it

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determines that the Bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice (collectively the "**Prohibited Practices**") in the Selection Process. In such an event, the Authority shall, without prejudice to its any other rights or remedies, forfeit and appropriate the Bid Security or Performance Security, as the case may be, as mutually agreed genuine pre- estimated compensation and damages payable to the Authority for, inter alia, time, cost and effort of the Authority, in regard to the RFP, including consideration and evaluation of such Bidder's Proposal.

4.2 Without prejudice to the rights of the Authority under Clause 4.1 hereinabove and the rights and remedies which the Authority may have under the LOA or the Agreement, if a Bidder or Bidder, as the case may be, is found by the Authority to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Selection Process, or after the issue of the LOA or the execution of the Agreement, such Bidder or Bidder shall not be eligible to participate in any tender or RFP issued by the Authority during a period of 2 (two) years from the date such Bidder or Bidder, as the case may be, is found by the Authority to have directly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.

4.3 For the purposes of this Section, the following terms shall have the meaning hereinafter respectively assigned to them:

(a) "**corrupt practice**" means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of any person connected with the Selection Process (for avoidance of doubt, offering of employment to or employing or engaging in any manner whatsoever, directly or indirectly, any official of the Authority who is or has been associated in any manner, directly or indirectly with the Selection Process or the LOA or has dealt with matters concerning the Agreement or arising therefrom, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or

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otherwise ceases to be in the service of the Authority, as the case may be, shall be deemed to constitute influencing the actions of a person connected with the Selection Process); or (ii) save as provided herein, engaging in any manner whatsoever, whether during the Selection Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical consultant / adviser of the Authority in relation to any matter concerning the Project;

(b) "**Fraudulent practice**" means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection Process;

(c) "**Coercive practice**" means impairing or harming or threatening to impair or harm, directly or indirectly, any persons or property to influence any person's participation or action in the Selection Process;

(d) "**Undesirable practice**" means (i) establishing contact with any person connected with or employed or engaged by the Authority with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Selection Process; or (ii) having a Conflict of Interest; and

(e) "**Restrictive practice**" means forming a cartel or arriving at any understanding or arrangement among Bidders with the objective of restricting or manipulating a full and fair competition in the Selection Process.

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5 PRE-PROPOSAL CONFERENCE

5.1 Pre-Proposal Conference of the Bidders shall be convened at the designated date, time and place, as per Clause 1.8. A maximum of two representatives of each Bidder shall be allowed to participate on production of an authority letter from the Bidder.

5.2 During the course of Pre-Proposal Conference, the Bidders will be free to seek clarifications and make suggestions for consideration of the Authority. The Authority shall endeavor to provide clarifications and such further information as it may, in its sole discretion, consider appropriate for facilitating a fair, transparent and competitive Selection Process.

i. The Authority may issue necessary interpretations, clarifications and Addenda as deemed fit. All clarifications and interpretations issued by the Authority shall be deemed to be part of the RFP.

ii. Any Corrigendum/Addendum thus issued will be uploaded in the website https://karnatakatenders.gov.in.

iii. Any verbal clarifications and information given by BSWML or its employees or representatives shall not in any way or manner be binding on BSWML.

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6 MISCELLANEOUS

6.1 The Selection Process shall be governed by, and construed in accordance with, the laws of India and the Courts in the Karnataka shall have exclusive jurisdiction over all disputes arising under, pursuant to and/or in connection with the Selection Process.

6.2 The Authority, at their discretion and without incurring any obligation or liability, reserves the right, at any time, to:

(a) suspend and/or cancel the Selection Process and/or amend and/or supplement the Selection Process or modify the dates or other terms and conditions relating thereto;

(b) consult with any Bidder in order to receive clarification or further information;

(c) retain any information and/or evidence submitted to the Authority by, on behalf of and/or in relation to any Bidder; and/or

(d) Independently verify, disqualify, reject and/or accept any and all submissions or other information and/or evidence submitted by or on behalf of any Bidder.

6.3 It shall be deemed that by submitting the Proposal, the Bidder agrees and releases the Authority, their employees, agents and advisers, irrevocably, unconditionally, fully and finally from any and all liability for claims, losses, damages, costs, expenses or liabilities in any way related to or arising from the exercise of any rights and/or performance of any obligations hereunder, pursuant hereto and/or in connection herewith and waives any and all rights and/or claims it may have in this respect, whether actual or contingent, whether present or future.

6.4 All documents and other information supplied by the Authority or submitted by a Bidder shall remain or become, as the case may be, the property of the Authority. The Authority will not return any submissions made hereunder. Bidders are required to treat all such documents and information as strictly confidential.

6.5 The Authority reserves the right to make inquiries with any of the clients listed by the Bidders in their previous experience record.

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SCOPE OF WORK

Refer Article-2 of Draft Concession Agreement for the scope of the work

For reference purpose only

APPENDIX – I: TECHNICAL PROPOSAL

For reference purpose only

APPENDIX-I

Form-1: Letter of Proposal

(On Bidder's letter head)

(Date and

Reference)

To,

.....

.....

.....

Subject: Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model).

Dear Madam/Sir,

With reference to your RFP Document dated ……., I/we, having examined all relevant documents and understood their contents, hereby submit our Proposal for selection as Concessionaire for the development and operation of integrated solid waste management system (the "**Project**"). The proposal is unconditional and unqualified.

1. All information provided in the Proposal and in the Appendices is true and correct and all documents accompanying such Proposal are true copies of their respective originals.

2. This statement is made for the express purpose of appointment as the Concessionaire for the aforesaid Project.

3. I/We shall make available to the Authority any additional information it may deem necessary or require for supplementing or authenticating the Proposal.

4. I/We acknowledge the right of the Authority to reject our application without assigning any reason or otherwise and hereby waive our right to challenge the same on any account whatsoever.

5. I/We certify that in the last five years, we have neither failed to perform on any

For reference purpose only

contract, as evidenced by imposition of a penalty by an arbitral or judicial authority or a judicial pronouncement or arbitration award against the Bidder, nor been expelled from any project or contract by any public authority nor have had any contract terminated by any public authority for breach on our part.

6. I/We declare that:
   (a) I/We have examined and have no reservations to the RFP Documents, including any Addendum issued by the Authority;
   (b) I/We do not have any conflict of interest in accordance with Clause 2.3 of the RFP Document;
   (c) I/We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as defined in Clause 4.3 of the RFP document, in respect of any tender or request for proposal issued by or any agreement entered into with the Authority or any other public sector enterprise or any government, Central or State; and

7. I/We understand that you may cancel the Selection Process at any time and that you are neither bound to accept any Proposal that you may receive nor to select the Concessionaire, without incurring any liability to the Bidders in accordance with Clause 2.8 of the RFP document.

8. I/We declare that we/any member of the Joint Venture/Consortium, are/is not a Member of any other Joint Venture/Consortium applying for selection as a Concessionaire.

9. I/We certify that in regard to matters other than security and integrity of the country, have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which would cast a doubt on our ability to undertake the Project or which relates to a grave offence that outrages the moral sense of the community.

10. I/We further certify that in regard to matters relating to security and integrity of the country, we have not been charge-sheeted by any agency of the Government or convicted by a Court of Law for any offence committed by us or by any of our Associates.

11. I/We further certify that no investigation by a regulatory authority is pending either against us or against our Associates or against our CEO or any of our Directors/Managers/employees.

12. I/We hereby irrevocably waive any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by the Authority [and/ or the Government of Karnataka] in connection with the selection of Concessionaire or in connection with the Selection Process itself

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in respect of the above-mentioned Project.

13. The Bid Security of Rs. ..... (Rupees) has been submitted through online mode of payment as provided in the RFP document.

14. I/We agree and understand that the proposal is subject to the provisions of the RFP document. In no case, shall I/we have any claim or right of whatsoever nature if the Project is not awarded to me/us or our proposal is not opened or rejected.

15. I/We agree to keep this offer valid for 180 (One hundred and eighty) days from the Proposal Due Date specified in the RFP.

16. A Power of Attorney in favour of the authorised signatory to sign and submit this Proposal and documents is attached herewith in Form-4 of Appendix-I.

17. In the event of my/our firm/ Joint Venture/Consortium being selected as the Concessionaire, I/we agree to enter into the Concession Agreement in accordance with the Schedule-I of the RFP. We agree not to seek any changes in the aforesaid form and agree to abide by the same.

18. I/We have studied RFP, and all other documents carefully and also surveyed the Site(s). We understand that except to the extent as expressly set forth in the Concession Agreement, we shall have no claim, right or title arising out of any documents or information provided to us by the Authority or in respect of any matter arising out of or concerning or relating to the Selection Process including the award of Project.

19. The Financial Proposal is being submitted separately. This Technical Proposal read with the Financial Proposal shall constitute the Application which shall be binding on us.

20. I/We agree and undertake to abide by all the terms and conditions of the RFP Document. In witness thereof, I/we submit this Proposal under and in accordance with the terms of the RFP Document.

Yours faithfully,

(Signature, name and designation of the authorized signatory)

(Name and seal of the Bidder / Lead Member)

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APPENDIX-I

Form-2: Particulars of the Bidder

1. Details of Bidder

   (a) Name:

   (b) Country of incorporation and MOA/PAN:

   (c) Address of the corporate headquarters and its branch office(s), if any, in India:

   (d) Date of incorporation and/ or commencement of business and GST certificate details:

2. Brief description of the Company including details of its main lines of business and proposed role and responsibilities in this Project:

3. Details of individual(s) who will serve as the point of contact/ communication for the authority:

   (a) Name:

   (b) Designation:

   (c) Company:

   (d) Address:

   (e) Telephone Number:

   (f) E-Mail Address:

4. Details of individual(s) who will serve as the point of contact/ communication for the Authority:

   (a) Name:

   (b) Designation:

   (c) Company:

   (d) Address:

   (e) Telephone Number:

   (f) E-Mail Address

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5. Particulars of the Authorized Signatory of the Bidder:

   (a) Name:

   (b) Designation:

   (c) Address:

   (d) Phone Number:

6. In case of a Joint Venture/Consortium/proprietorship incorporated:

   (a) The information above (1-3) should be provided for all the Members of the Joint Venture/Consortium.

   (b) A copy of the Joint Bidding Agreement should be attached to the Proposal

   (c) Information regarding the role of each Member should be provided as per table below:

S.N	Name of Member	Role	Percentage of equity in the Joint Venture / Consortium/ proprietorship incorporated
1			
2			
3			

   (d) The following information shall also be provided for each Member of the Joint Venture / Consortium:
   Name of Bidder/Member of Joint Venture or Consortium

S.N	Criteria	Yes	No
(1)	Has the Bidder constituent of the Joint Venture/Consortium/ proprietorship incorporated been barred by the [Central/ State] Government, or any entity controlled by it from participating in any project (BOT or otherwise) in the last 3 years?		
(2)	If the answer to (1) is yes, does the bar subsist as on the Proposal Due Date?		
(3)	Has the Bidder/Joint Venture/Consortium/proprietorship incorporated paid liquidated damages of more than 5% (five per cent) of the contract value in a contract due to delay or has been penalized due to any other reason in relation to execution of a contract, in the last three years?		

7. A statement by the Bidder and each of the Members of its Joint Venture/Consortium (where applicable) or any of their Associates disclosing material non-performance or contractual non-compliance in past projects, contractual disputes and litigation/ arbitration in the recent past is given below (Attach extra sheets, if necessary)

Yours faithfully,
(Signature, name and designation of the authorized signatory)
(Name and seal of the Bidder / Lead Member)

For reference purpose only

APPENDIX-I

Form-3: Statement of Legal Capacity

(To be forwarded on the letter head of the Bidder)

(Date and Reference)

To,

.....

.....

.....

Subject: Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)

Dear Madam/Sir,

I / We hereby confirm that we, the Bidder (along with other Members in case of Joint Venture/ Consortium, the constitution of which has been described in the Proposal$), satisfy the terms and conditions laid down in the RFP document.

I / We have agreed that (insert Bidder's name) will act as the Lead Member of our Joint Venture / Consortium.

I / We have agreed that (insert individual's name) will act as our Authorised Representative / will act as the Authorised Representative of the Joint Venture / Consortium on our behalf and has been duly authorized to submit our Proposal. Further, the authorised signatory is vested with requisite powers to furnish such proposal and all other documents, information or communication and authenticate the same.

Yours faithfully,

(Signature, name and designation of the authorized signatory)

For and on behalf of .....

For reference purpose only

[$] Please strike out whichever is not applicable.

For reference purpose only

APPENDIX-I

Form-4A: Power of Attorney for signing of Proposal

Know all men by these presents, we, ……. (name of Company and address of the registered office) do hereby constitute, nominate, appoint and authorise Ms. / Mr..... daughter/ wife / son of ..... and presently residing at ....., who is presently employed with us and holding the position of ..... as our true and lawful attorney (hereinafter referred to as the "**Authorised Representative**") to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our Proposal for "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)" (the "**Project**"), proposed to be developed by the ..... (the "**Authority**") including but not limited to signing and submission of all applications, proposals and other documents and writings, participating in pre-Proposal and other conferences and providing information / responses to the Authority, representing us in all matters before the Authority, signing and execution of all contracts and undertakings consequent to acceptance of our Proposal and generally dealing with the Authority in all matters in connection with or relating to or arising out of our Proposal for the said Project and/or upon award thereof to us till the entering into of the Concession Agreement with the SPV / the Authority and the Selected Bidder as confirming party.

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawfully done or caused to be done by our said Authorised Representative pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Authorised Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, ... THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS ..... DAY OF ....., 20.....

For .....
(Signature, name, designation and address)

Witnesses:
1.
2.

Notarized

Accepted

.....

For reference purpose only

(Signature, name, designation and address of the Attorney)

Notes:

1. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure. The Power of Attorney should be executed on a non-judicial stamp paper of Rs. 500 (Five hundred) and duly notarised by a notary public.

2. Wherever required, the Bidder should submit for verification the extract of the charter documents and other documents such as a resolution/power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

3. For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, Bidders from countries that have signed the Hague Legislation Convention 1961 need not get their Power of Attorney legalised by the Indian Embassy if it carries a conforming Apostille certificate.

4. Power of Attorney executed abroad should conform to the provisions of Notaries Act, 1952 and Indian Stamp Act, 1899.

For reference purpose only

APPENDIX-I

Form-4B: Power of Attorney for Lead Member of Joint Venture / Consortium / proprietorship incorporated

Whereas the Authority has invited applications from interested parties for the "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)**.**"

Whereas, ……., ……., …….. and (collectively the "Joint Venture / Consortium") being Members of the Joint Venture / Consortium / proprietorship incorporated are interested in bidding for the Project in accordance with the terms and conditions of the Request for Proposal (RFP) and other connected documents in respect of the Project, and

Whereas, it is necessary for the Members of the Joint Venture/Consortium to designate one of them as the Lead Member with all necessary power and the authority to do for and on behalf of the Joint Venture / Consortium / proprietorship incorporated, all acts, deeds and things as may be necessary in connection with the Joint Venture / Consortium / proprietorship incorporated's Proposal for the Project and its execution.

NOW, THEREFORE, KNOW ALL MEN BY THESE PRESENTS

We, ……. Having our registered office at …… ,
M/s, ……. Having its registered office at …… ,
M/s, ……. Having its registered office at …… ,

(herein after collectively referred to as the "**Principals**") do hereby irrevocably designate, nominate, constitute, appoint and authorize M/s …….. Having our registered office at ……., being one of the Members of the Joint Venture / Consortium / proprietorship incorporated, as the Lead Member and true lawful attorney (with power to sub delegate) to conduct all business for and on behalf of the Joint Venture / Consortium and any one of us during the Selection Process and; in the event the Joint Venture / Consortium is awarded the concession / contract, during the execution of the Project and in this regard, to do on our behalf and on behalf of the Joint Venture / Consortium, all or any of such acts, deeds or things as are necessary or required or incidental to the pre-qualification of the Joint Venture / Consortium and submission of its Proposal for the Project, including but not limited to signing and submission of all applications, Proposals and other documents and writings, participate in Bidders and other conferences, respond to queries, submit information / documents, sign and execute contracts and undertakings consequent

For reference purpose only

to acceptance of the Proposal of the Joint Venture / Consortium and generally to represent the Joint Venture / Consortium in all its dealings with the Authority, and / or any other Government Agency or any person, in all matters in connection with or relating or arising out of the Joint Venture / Consortium's Proposal for the Project and/or upon award thereof till the Concession Agreement is entered into with SPV / the Authority and the Selected Bidder as confirming party.

AND hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us / Joint Venture / Consortium.

IN WITNESS WHEREOF WE, ... THE ABOVE-NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS ..... DAY OF ....., 20.....

For ……...

(Signature)

…… (Name & Title)

For ……...

(Signature)

…… (Name & Title)

For ……...

(Signature)

…… (Name & Title)

Witnesses:

1.

2.

……
(Executants)

For reference purpose only

(To be executed by all the Members of the Joint Venture / Consortium/ proprietorship incorporated)

Notes:

1. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure. The Power of Attorney should be executed on a non-judicial stamp paper of Rs. 500 (Five hundred) and duly notarized by a notary public.

2. Wherever required, the Bidder should submit for verification the extract of the charter documents and other documents such as a resolution/power of attorney in favor of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Bidder.

3. For a Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, Bidders from countries that have signed the Hague Legislation Convention 1961 need not get their Power of Attorney legalized by the Indian Embassy if it carries a conforming Apostille certificate.

4. Power of Attorney executed abroad should conform to the provisions of Notaries Act, 1952 and Indian Stamp Act, 1899.

For reference purpose only

APPENDIX-I

Form-5: Financial Capacity of the Bidder (*See Clause 2.2.2 (B)*)

Bidder Type	Member Code	Net Worth (FY preceding PDD) (in Crores)	Net worth (in Crores) (5 Years)				
			Year 1	Year 2	Year 3	Year 4	Year 5
Single entity Bidder							
Joint Venture / Consortium Member 1							
Joint Venture / Consortium Member 2							
Joint Venture / Consortium Member 3							
TOTAL							

Instructions:

1. The Bidder/ its constituent Joint Venture/Consortium/proprietorship incorporated Members shall attach copies of the balance sheets, financial statements and annual reports for 5 years preceding the Proposal Due Date. The financial statements shall:
   (a) Reflect the financial situation of the Bidder or Consortium Members and its/ their Associates where the Bidder is relying on its Associate's financials;
   (b) Be audited by a statutory auditor;
   (c) Be complete, including all notes to the financial statements; and
   (d) Correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

2. For the purposes of this RFP "Net Worth" shall be computed as per the formulation provided in Clause 2.16.3(i,ii)of this RFP.

3. The Bidder shall provide Statutory Auditor's certificate/Chartered Accountant certificate specifying the Net Worth and also specifying the methodology adopted for calculating such net worth.

For reference purpose only

APPENDIX-I

Form-6: Particulars of Key Personnel

Sl. No.	Designation of Key Personnel	Name	Educational Qualification	Length of Professional Experience	Present Employment		No. of Eligible Assignments[$]
					Name of Company / Firm	Employed Since	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1.	Team Leader						
2.	Safety Expert						
3.	Financial Analyst						
4.	Environmental Expert						

[$] Refer Form 11 of Appendix-I (Experience of Key Personnel)

For reference purpose only

APPENDIX-I

Form-7: Proposed Methodology, Technology and Work Plan

The proposed methodology, technology and work plan shall be described as follows:

1. **Understanding of terms and conditions of the Concession Agreement (not more than two pages)**
   The Bidder shall clearly state its understanding of the terms and conditions of the Concession Agreement and also highlight its important aspects.

2. **Methodology and Work Plan** (not more than three pages)
   The Bidder will submit its methodology for carrying out the Project, outlining its approach toward achieving the key performance indicators laid down in the Concession Agreement. The Bidder will submit a brief write up on its proposed team and organisation of personnel explaining how different areas of expertise needed for the Project have been fully covered by its Proposal. In case the Bidder is a Joint Venture/Consortium, it should specify how the expertise of each Member is proposed to be utilised for the Project. The Bidder should specify the sequence and locations of important activities, and provide a quality assurance plan for carrying out the Project.

3. **Proposed Technology** (detailed note)
   The Bidder will submit its proposed technology for carrying out the Project, including the details of technology / combination of technologies proposed for processing of waste, sources of technologies and technology tie-up.

4. **Other details to be included in the Technical Proposal** (detailed notes)

   a) Equipment, vehicles/e-vehicles, storage bins, etc., requirement secondary collection and transportation of segregated waste along with plan for 100% segregated transportation of waste into organic/inorganic components.

   b) Area requirement for processing and sanitary landfill facility

   c) Key assumptions in development of processing facility and basis of proposed capacity.

   d) Key assumptions in development of ISWM facility and basis of designed capacity, area requirement.

   e) Processing products along with their quantity (Ton/day. etc.)

   f) Market tie-up for sale of processing products

   g) Project plan including schedule for equipment replacements and capacity additions at regular intervals.

For reference purpose only

h) Organization and staffing/manpower details (transportation, processing, & disposal)

i) Environment management plan

j) Assessment of risk and mitigation plan

k) Key approvals and clearances

l) Total investment proposed and funding / financing plan, project financial aspects – capital cost, operation and maintenance cost, revenues, etc.

m) Project timelines

Bidders would be required to submit information on key assumptions for the Project (the "**Key Assumptions**") based on their estimates of various parameters pertaining to the Project. Key Assumptions must include (but not limited to) information on the following:

(a) Project cost estimates along with breakup across different units

(b) Details of preliminary expenses

(c) Base construction cost

(d) Contingencies

(e) Details of pre-operative expenses

(f) Operation & Maintenance cost

(g) Processing product quantities in [Ton/days or Mega Watts] and estimated revenues

5. Proposed approach, methodology, technology, work plan for ISWM of Municipal Solid Waste (detailed note)

(a) Previous experiences of the proposed technology/methodology/business model and issues faced therein
(b) Project understanding – understanding of the project with respect to the project area and scope
(c) Detailed description of the proposed technology or methodology with process flow chart for Project operations.
(d) Method proposed for processing of legacy waste and utilization plan for components recovered:
- Organic fraction
- Combustible fraction
- Inert fraction
- Recyclables
- Hazardous waste

For reference purpose only

(e) Procurement plan, manpower deployment plan and installation & commissioning plan to achieve COD (the procurement plan shall include the details of Project asset to be deployed including asset type, capacity, specifications and manufacturer. the manpower deployment plan shall include details on type of manpower (skilled/unskilled/driver), number of manpower and the source. The Bidder shall provide procurement and deployment schedule in Gantt chart inclusive of replacement of Project assets during the entire Concession Period. The Bidder shall also detail out the installation & commissioning schedule in proper format.

(f) Detailed Implementation Plan of the dumpsite along with a Programme Evaluation Review Technique (PERT) chart.

(g) Proposed solution for management of leachate and landfill gas

(h) Disaster management plan

(i) Detailed description of the proposed business model – SWOT analysis, industry analysis, market demand analysis, sales strategy and marketing plan, financial plan

(j) Space required for processing equipment

(k) [deleted]

(l) [deleted]

(m) [deleted]

(n) Identified risks – technical, operational and environmental

(o) Compliance with environmental norms, Waste Management Rules, 2016, Legacy Waste Guidelines, 2019, and other Applicable Laws

Note**:**

1. All of the above details should be provided as elaborately as feasible and supported with engineering drawings (if applicable), manpower requirement, fuel, power requirement and explanation of time required for recovery and utilization of components. Based on the above work requirement, the Bidder will provide details of plant, machinery and equipment proposed to be deployed in the works and their status (new or old). The Bidder shall also provide a list of key personnel proposed to be deployed for the work with their curriculum vitae.

2. The Bidder may be invited to make a presentation on approach, methodology, proposed technologies and project plan to judge their understanding of the Project.

3. Marks will be deducted for writing lengthy and out of context responses.

For reference purpose only

APPENDIX-I

Form-8: Proforma of Bank Guarantee for Bid Security

[(to be executed on Rs. 500/- non judicial stamp paper)]

[Bank's Name and Address of Issuing Branch or Office]

Beneficiary: …… having its registered office at ……AND [Name of the Authority], having its registered office at .....

Account No.:
Bank name, branch and IFSC Code:

B.G. No.

Dated: [•]

1. We have been informed that [•] [insert name of the Bidder] (hereinafter called the "Bidder") intends to submits its Proposal (hereinafter called the "Proposal") for "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model), under Request for Proposal bearing RFP Reference No. [•] dated [•] (hereinafter called the "RFP").

2. Furthermore, we understand that, according to your conditions, the Proposal must be supported by a Bid Security.

3. At the request of the Bidder, we, **[•]** [insert name of the Bank], having our branch at ..... hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of Rs. *** (Rupees *** only) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the terms and conditions of the RFP, without any demur, reservation, recourse, contest or protest and without reference to the Bidder, which may include the following: -

   (a) If the Bidder withdraws its Proposal during the validity period of the Proposal;
   (b) if a Bidder submits a non-responsive Proposal as per the RFP;
   (c) if a Bidder has a conflict of interest as specified in the RFP
   (d) If the Bidder engages in a corrupt, fraudulent, coercive, collusive or restrictive practice as specified in Section 4 of the RFP;
   (e) If the Bidder upon being declared as the Selected Bidder fails to:
      i. to sign and return the duplicate copy of Letter of Award;

For reference purpose only

ii. to sign the Concession Agreement;

iii. furnish a Performance Security in within the period prescribed in the Concession Agreement;

(f) If the Selected Bidder, having signed the Concession Agreement, commits any breach thereof prior to furnishing the Performance Security.

(g) If the Bidder is otherwise in breach of the terms of the RFP.

4. Any such written demand made by the Authority stating that the Bidder is in default of the due and faithful fulfillment and compliance with the terms and conditions contained in the RFP shall be final, conclusive and binding on the Bank.

5. This guarantee will expire: (a) if the Bidder is the Selected Bidder, upon receipt of the Performance Security by you, and (b) if the Bidder is not the Selected Bidder, (i) return of the Bank Guarantee by you as per the terms of the RFP, or (ii) upon expiry of 120 days from the date hereof.

6. This Guarantee will not be discharged due to the change in the constitution of the Bank or the Bidder.

7. This Guarantee will neither be cancelled nor revoked by the Bank without the written authorization of the Authority.

8. Consequently, any demand for payment under this Guarantee must be received by us at the office on or before that date.

Signed and delivered by _____Bank

By the hand of Mr./Ms. [•], its [•] and authorized official.

(Signature of the Authorized Signatory) (Official)

For reference purpose only

APPENDIX-I

Form-9: Format for Joint Bidding Agreement

(*See Clause 2.16.7(b)(iv)*)

(To be executed on Stamp paper of appropriate value)

THIS JOINT BIDDING AGREEMENT is entered into on this the …… day of …….. 20…

AMONGST

1. …… Limited, a company/ partnership/ proprietorship incorporated/ registered under [***] and having its registered office at …… (hereinafter referred to as the "**First Part**" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

2. …… Limited, a company/ partnership/ proprietorship incorporated/ registered under [***] and having its registered office at …… (hereinafter referred to as the "**Second Part**" which expression shall, unless repugnant to the context include its successors and permitted assigns)

AND

3. …… Limited, a company/ partnership/ proprietorship incorporated/ registered under [***] and having its registered office at …… (hereinafter referred to as the "Third Part" which expression shall, unless repugnant to the context include its successors and permitted assigns)

The above-mentioned parties of the FIRST, SECOND and THIRD PART are collectively referred to as the "**Parties**" and each is individually referred to as a "**Party**".

WHEREAS,

A. ……[Authority] having its principal office at …… including its administrators, successors and assigns) and the [Name of the Authority], having its principal office at …… including its administrators, successors and assigns) have invited Proposals (the "Proposals") by its Request for Proposal No.…… dated .....(the "RFP") for "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode

For reference purpose only

– DBFOT Model)." (the "Project") through public private partnership.

B. The Parties are interested in jointly bidding for the Project as members of a Joint Venture/Consortium and in accordance with the terms and conditions of the RFP document and other bid documents in respect of the Project, and

C. It is a necessary condition under the RFP document that the members of the Joint Venture/Consortium shall enter into a Joint Bidding Agreement and furnish a copy thereof with the Proposal.

***NOW IT IS HEREBY AGREED as follows**:*

1. Definitions and Interpretations

In this Agreement, the capitalized terms shall, unless the context otherwise requires, have the meaning ascribed thereto under the RFP.

2. Joint Venture/Consortium

The Parties do hereby irrevocably constitute a joint venture/consortium (the "**Joint Venture / Consortium**") for the purposes of jointly participating in the Selection Process for the Project.

The Parties hereby undertake to participate in the Selection Process only through this Joint Venture/Consortium and not individually and/ or through any other Joint Venture/Consortium constituted for this Project, either directly or indirectly or through any of their Associates.

3. Covenants

The Parties hereby undertake that in the event the Joint Venture/Consortium is declared the Selected Bidder and awarded the Project, it shall incorporate a special purpose vehicle (the "SPV") under the Indian Companies Act, 2013 for entering into a Concession Agreement with the Authority for performing all its obligations as the Concessionaire in terms of the Concession Agreement for the Project.

4. Role of the Parties

The Parties hereby undertake to perform the roles and responsibilities as described below:

(a) Party of the First Part shall be the Lead Member of the Joint Venture / Consortium (the shareholding of the Lead Member should be [at least 51% or majority shareholder]) and shall have the Power of Attorney from all Parties for conducting all business for and on behalf of the Joint Venture / Consortium during the duration of the Project;

(b) Party of the Second Part shall be responsible for *[insert role]*

(c) Party of the Third Part shall be responsible for *[insert role]*

5. Joint and Several Liability

For reference purpose only

The Parties do hereby undertake to be jointly and severally responsible for all obligations and liabilities relating to the Project and in accordance with the terms of the RFP and the Concession Agreement, till the expiry of the Concession Agreement.

6. Shareholding in the SPV

The Parties agree that the proportion of shareholding among the Parties in the SPV shall be as follows:

First Party:

Second Party:

Third Party:

The Parties shall ensure that the Parties shall in case the Selected Bidder is a Consortium of entities, then the lead member (the "Lead Member") of such Consortium and the member whose credentials were considered for prequalification for bid, shall have the majority equity share holding of the paid-up Equity capital of the Concessionaire and that all the members of the Consortium together shall hold [100% (one hundred per cent)] Equity capital of the Concessionaire, until expiry of [1 (one)]year from COD, [51% (fifty one percent)]shareholding in the paid-up Equity capital until expiration of [10 (ten)]years from COD and thereafter [26% (twenty six per cent)]shareholding in the paid-up Equity capital during the remaining Concession period. Provided further that a member of the Consortium meeting either the Technical Capacity or the Financial Capacity shall subscribe at least 10% (ten per cent) of the paid-up and subscribed Equity of the SPV until the 2nd (second) anniversary of the COD for member meeting the Technical Capacity and until the 1st (first) anniversary of the COD for the member meeting the Financial Capacity. The Parties undertake that they shall comply with all equity lock-in requirements set forth in the Concession Agreement.

7. Representation of the Parties

Each Party represents to the other Parties as of the date of this Agreement that:

(a) Such Party is duly organized, validly existing and in good standing under the laws of its incorporation and has all requisite power and authority to enter into this Agreement;

(b) The execution, delivery and performance by such Party of this Agreement has been authorized by all necessary and appropriate corporate or governmental action and a copy of the extract of the charter documents and board resolution/ power of attorney in favour of the person executing this Agreement for the

For reference purpose only

delegation of power and authority to execute this Agreement on behalf of the Joint Venture/Consortium Member is annexed to this Agreement, and will not, to the best of its knowledge:

i. require any consent or approval not already obtained;

ii. violate any Applicable Law presently in effect and having applicability to it;

iii. violate the memorandum and articles of association, by-laws or other applicable organizational documents thereof;

iv. violate any clearance, permit, concession, grant, license or other governmental authorization, approval, judgement, order or decree or any mortgage agreement, indenture or any other instrument to which such Party is a party or by which such Party or any of its properties or assets are bound or that is otherwise applicable to such Party; or

v. create or impose any liens, mortgages, pledges, claims, security interests, charges or encumbrances or obligations to create a lien, charge, pledge, security interest, encumbrances or mortgage in or on the property of such Party, except for encumbrances that would not, individually or in the aggregate, have a material adverse effect on the financial condition or prospects or business of such Party so as to prevent such Party from fulfilling its obligations under this Agreement;

(c) this Agreement is the legal and binding obligation of such Party, enforceable in accordance with its terms against it; and

(d) there is no litigation pending or, to the best of such Party's knowledge, threatened to which it or any of its Associates is a party that presently affects, or which would have a material adverse effect on the financial condition or prospects or business of such Party in the fulfilment of its obligations under this Agreement.

8. Termination

This Agreement shall be effective from the date hereof and shall continue in full force and effect until the completion of the Project is achieved under and in accordance with the Concession Agreement. However, in case the Joint Venture/Consortium is either not pre- qualified for the Project or does not get selected for award of the Project, the Agreement will stand terminated in case the Bidder is not pre-qualified or upon return of the Bid Security by the Authority to the Bidder, as the case may be.

9. Miscellaneous

This Joint Bidding Agreement shall be governed by laws of India. The Parties acknowledge and accept that this Agreement shall not be amended by the Parties

For reference purpose only

without the prior written consent of the Authority.

IN WITNESS WHEREOF THE PARTIES ABOVE NAMED HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

SIGNED, SEALED AND DELIVERED For and on behalf of **LEAD MEMBER** by: (Signature) (Name) (Designation) (Address)	SIGNED, SEALED AND DELIVERED For and on behalf of **SECOND PART** (Signature) (Name) (Designation) (Address)
SIGNED, SEALED AND DELIVERED For and on behalf of **THIRD PART** (Signature) (Name) (Designation) (Address)	

Notes:

1. The mode of the execution of the Joint Bidding Agreement should be in accordance with the procedure, if any, laid down by the Applicable Law and the charter documents of the executant(s) and when it is so required, the same should be under common seal affixed in accordance with the required procedure.
2. Each Joint Bidding Agreement should attach a copy of the extract of the charter documents and documents such as resolution / Power of Attorney in favour of the person executing this Agreement for the delegation of power and authority to execute this Agreement on behalf of the Joint Venture/Consortium Member.
3. For a Joint Bidding Agreement executed and issued overseas, the document shall be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney has been executed.

For reference purpose only

APPENDIX-I

Form-10: Abstract of Eligible Assignments of the Bidder

(*See Clause 3.1.4*)

S. N	Name of Project	Name of Client	Date of Commencement	Date of Commissioning	Project Capacity	Location of the Project	Project Cost (in Rs. Crore)	Whether credit is being taken for the eligible Experience of an Associate (Yes/ No)
(1)*	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1								
2								

* The names and chronology of Eligible Projects included here should conform to the project- wise details submitted in Form-12 of Appendix-I..

Note 1: Exchange rate for conversion of US $ shall be as per Clause 1.7.1.

Note 2: Experience for any activity relating to an Eligible Project shall not be claimed by two or more Members of the Joint Venture / Consortium. In other words, no double counting by a Joint Venture / Consortium in respect of the same experience shall be permitted in any manner whatsoever.

For reference purpose only

APPENDIX-I

Form-11: Abstract of Eligible Assignments of Key Personnel

(*See Clause 3.1.4*)

Name of Key Personnel: Designation:

S. N.	Name of Project*	Name of Client	Date of Commencement of work by the Key Personnel	Date of Completion of work by the Key Personnel	Man days spent	Project Capacity	Location of the Project	Project Cost (in Rs. Crore)	Name of Company/ Firm for which the Key Personnel worked	Designation of the Key P ersonnel on the Project
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1										
2										
3										
4										
5										

[$] Use separate Form for each Key Personnel.

[*]The names and chronology of projects included here should conform to the project-wise details submitted in Form-13 of Appendix-I.

Note: The Bidder may attach separate sheets to provide brief particulars of other relevant experience of the Key Personnel.

For reference purpose only

APPENDIX-I

Form-12: Eligible Assignments of the Bidder

(*See Clause 3.1.4*)

1	Name of the Project	
2	Nature of the Project	
3	Name of the Client	
4	Address, Telephone no. and E-mail address of the Client	
5	Date of Commencement	
6	Date of Commissioning	
7	Project Capacity	
8	Location	
9	Project Cost	
10	Whether credit is being taken for the eligible Experience of an Associate (Yes/ No)	
11	Brief description of the Project:	
It is certified that the aforesaid information is true and correct to the best of my knowledge and belief. (Signature and name of Bidder)		

Notes:

1. Use separate sheet for each Eligible Project.

2. Exchange rate for conversion of US $ shall be as per Clause 1.7.1.

For reference purpose only

APPENDIX-I

Form-13: Eligible Assignments of Key Personnel

(*See Clause 3.1.4*)

1	Name of the Project	
2	Nature of the Project	
3	Name of the Client	
4	Address, Telephone no. and E-mail address of the Client	
5	Date of Commencement of work of the Key Personnel	
6	Date of Completion of work of the Key Personnel	
7	Man days spent	
8	Project Capacity	
9	Location	
10	Project Cost	
11	Name of Company/Firm for which the Key Personnel worked	
12	Designation of the Key Personnel on the Project	
13	Brief description of the Project:	
It is certified that the aforesaid information is true and correct to the best of my knowledge and belief. (Signature and name of Key Personnel)		

Notes:

1. Use separate sheet for each Eligible Project.

2. The Bidder may attach separate sheets to provide brief particulars of other relevant experience of the Key Personnel.

3. Exchange rate for conversion of US $ shall be as per Clause 1.7.1.

For reference purpose only

APPENDIX-I

Form-14: Curriculum Vitae (CV) of Key Personnel and Professional Personnel

(*See Clause 2.14.6*)

1. Proposed Position:

2. Name of Personnel:

3. Date of Birth:

4. Nationality:

5. Educational Qualifications:

6. Employment Record: (Starting with present position, list in reverse order every employment held)

7. List of projects on which the Personnel has worked

Name of Project	Description of Responsibilities

8. Details of the current project and the time duration for which services are required for the current project.

Certification:

i. I am willing to work on the Project and I will be available for entire duration of the Project as required.

ii. I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications and my experience.

(Signature and name of the Key Personnel)

Place.....

(Signature and name of the authorised signatory of the Bidder)

For reference purpose only

Notes:

1. Use separate form for each Key Personnel and Professional Personnel
2. The names and chronology of projects included here should conform to the project-wise details submitted in Form-11 and Form-13 of Appendix-I.
3. Each page of the CV shall be signed in ink or digitally signed and dated by both the Personnel concerned and by the Authorised Representative of the Bidder along with the seal of the Bidder. Photocopies will not be considered for evaluation.

For reference purpose only

APPENDIX-I

Form-15: Deployment of Personnel

S.N	Designation	Name	Man-Days (MD)		Week Numbers					
			At Project site	Away from Project site (specify)	1	2	3	4	5	6
1										
2										
3										
4										
5										
6										
Total Man days										

For reference purpose only

APPENDIX-I

Form-16: Survey and Field Investigations

Item of Work / Activity	To be carried out / prepared by		Week							
	Name	Designation	1	2	3	4	5	6	7	8

For reference purpose only

APPENDIX-I

Form-17: Format of Self-Attested Certificate regarding Associate

Self-Attested Certificate regarding Associate

Based on the authenticated record of [Insert name of the Company], this is to certify that [more than 25% (twenty five per cent) of the subscribed and paid-up voting equity of……..… (name of the Bidder / Member / Associate) is held, directly or indirectly, by …….. (name of Bidder / Member / Associate)

By virtue of the aforesaid, the latter exercises control over the former, who is an Associate.]

[……. (name of Bidder / Member / Associate) has the power, directly or indirectly, to direct or influence the management and policies of ……. (Bidder / Member) by operation of law, contract or otherwise]. By virtue of the aforesaid, the former exercises control over the latter, who is an Associate.]

A brief description of the said equity held, directly or indirectly, is given below:

{Describe the shareholding of the Bidder / Member and the Associate. In the event the Associate is under common Control with the Associate / Consortium Member, or the Control is exercised by operation of law, the relationship may be suitably described and similarly certified herein.}

Name of the Bidder / Member: Seal of the Bidder / Member:

For reference purpose only

APPENDIX-I

Form-18: Format of Information on Litigation

(To be provided by the Bidder / each Member)

S.N	Name	Forum and Counterparty	Brief Description of the matter	Estimated financial liability	Current Status of Litigation	Orders passed Against the Bidder / Member

For reference purpose only

APPENDIX-II: FINANCIAL PROPOSAL

For reference purpose only

APPENDIX-II

Form-1: Covering Letter

(On Bidder's letter head)

(Date and Reference) To,

.....

.....

.....

Subject: Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model).

Dear Madam/Sir,

I/We, ... (Bidder's name) herewith enclose the Financial Proposal for selection of my / our Company / Joint Venture / Consortium as Concessionaire for above. I / We agree that this offer shall remain valid for a period of 180 (One Hundred and Eighty) days from the Proposal Due Date or such further period as may be mutually agreed upon.

Yours faithfully,

(Signature, name and designation of the authorized signatory)

Note: The Financial Proposal is to be submitted strictly as per forms given in the RFP.

For reference purpose only

APPENDIX-II

Form-2A: Format for Bid Price Sheet

(all matter other than financial quote to be submitted On Bidder's letter head) and financial quote has to be uploaded in e portal as per the format given.

(Date and

Reference)

To,

.....

.....

.....

Subject: Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)

Dear Madam/Sir,

We are pleased to submit our Financial Proposal for Development and Operation of Integrated Solid Waste Management System as per the scope of work given in this RFP under DBFOT (Design, Build, Finance, Operate and Transfer) structure.

1. Having gone through this RFP document and the draft concession agreement and having fully understood the Scope of Work for the Project as set out by the Authority in the RFP document.

2. I / We are pleased to inform you that I / We would demand the following rate of Tipping Fee i.e. Per Ton for the respective descriptions of the schedules mentioned below as per the Scope of work indicated in this RFP document and Concession Agreement.

3. The below quoted rates are inclusive of all taxes, duties and levies, but excluding GST which will be paid by the authority as per prevailing norms and rate as applicable during the entire concession period.

4. We confirm that in case of discrepancy in Figures and Words for the Amount Quoted the lowest of the amount quoted in figure or words shall be considered. We confirm that the Financial Proposal conforms to all the terms & conditions stipulated in the Request for Proposal (RFP) Document.

5. We confirm that our Financial Proposal is FINAL in all respects and contains No conditions.

For reference purpose only

6. We confirm that the information submitted in our Financial Proposal is complete and is correct to the best of our knowledge and understanding. We would be solely responsible for any errors or omissions in our Proposal.
7. We confirm that we have studied the provisions of relevant Indian laws and regulations required to enable us to prepare this Financial Proposal and as required to Design, Build, Finance, Operate, Maintain and Transfer the Project, in the event that we are finally selected.

S.N	Description of the Service	Unit	Quantity	Rate INR (in fig)	Rate INR (in words)
1	Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)	Per Ton	1		

- The quoted amount must include two places of decimals

Note:

1. The Incremental escalation (year on year) of the quoted/ accepted rate shall be shall be paid 5% after completion of first year of commercial operation date of the facility.
2. The rate quoted by the bidders for Sl. No. 1 above is the net rate after adjusting the revenue to be generated from the processing at various sources in the corresponding package.
3. If the total tipping fee is Rs. 100/TPD, the tipping fee towards Secondary Transportation along with all support infrastructure shall be 50% of the same (i.e., Rs 50/TPD) and Processing & Disposal (P&D) along with all infrastructure shall be 50% of total tipping fee (i.e., Rs.50/TPD).
4. The tipping fee should be quoted after taking into consideration that the scope of Secondary Transportation shall be transferred to the Concessionaire upon the handing over of Transfer Station by Authority. This shall be done in a phased manner within 2 years from the date of signing the Concession Agreement.

Yours faithfully,
For and on behalf of (name of Bidder/Bidder)
Duly signed by the Authorized signatory of the Bidder/Bidder

For reference purpose only

Date & Place:

For reference purpose only

APPENDIX II

Form 2B: Format for Financial Bid Support Document

(To be submitted separately on the Letter Head of the Lead Member/single entity after opening of the financial bids by the Authority)

To

Deputy General Manager – 1,

Bengaluru Solid Waste Management

Limited #30/1, Thimmaiah Road,

Millers Tank Bund Area, Vasanthnagar,

Bengaluru-560 052

Date: _____

Sub: Financial Bid for RFP Reference No._____ dated _____ for "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)"

Dear Sir,

Having gone through this RFP document and the Draft Concession Agreement and having fully understood the Scope of Work for the Project as set out by the Authority in the RFP document.

1) I/We confirm the capital investment for entire project shall be Rs ____Crores.
2) I/We confirm the capital investment for Waste to Energy (electricity) shall be Rs _____Crores.
3) I/We confirm the capital investment for Bio-methanation/composting plant shall be Rs _____Crores.
4) I/We confirm the power generation from the Waste to Energy Plant shall be _____ MW.

For reference purpose only

5) I/We confirm the biogas/bio-fertilizer generation from the Bio-methanation/composting plant shall be _____ (Units).

6) I/We confirm the capital investment for transportation infrastructure facilities including procurement of vehicles, RFID mechanism, VTMS system, GPS System, workshop & etc., shall be Rs. _____Crores.

7) I/We confirm the capital investment for P&D works pretending to civil works which includes boundary wall, road & drains other processing facilities other than 2 & 3 mentioned above, electrical works, PHE works and all other infrastructure to establish ISWM facility shall be Rs. _____ Crores.

8) I/We confirm that in case of discrepancy in Figures and Words for the Amount Quoted the amount quoted in words shall be considered.

9) We confirm that, the information submitted in our Financial Bid is complete and is correct to the best of our knowledge and understanding. I/We would be solely responsible for any errors or omissions in our Financial Bid.

10) I/We confirm that our Bid shall be valid for a period of 180 (one hundred and eighty days) and we shall extend the Bid validity as desired by the Authority, and it shall remain binding upon us.

11) I/We confirm that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

12) I/We confirm that I/We have examined and have no reservations to the RFP Document, including Addendum/Corrigendum/Clarification issued by you.

13) I/We confirm that I/We shall submit the supporting financial model, cost estimate and various financial assumptions in support of this Financial Bid.

14) We confirm that we have studied the provisions of relevant Indian laws and regulations required to enable us to prepare this Financial Bid and as required to Design, Build, Finance, Operate and Transfer the Project, in the event that we are finally selected.

Yours Faithfully,

For and on behalf of (name of bidder)

Duly signed by the Authorized Signatory of the Bidder

For reference purpose only

APPENDIX-II

Form-3: Letter of Declaration

(The Letter of Declaration is to be submitted by EACH Member in case of Joint Venture / Consortium)

Date: Place:

To,

.....

.....

.....

Subject: Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)

Dear Madam/Sir,

This has reference to the Proposal being submitted by (mention the name of the Bidder / Lead Member of the Joint Venture / Consortium), as single entity / Lead Member of the Joint Venture / Consortium comprising _____ (mention name(s) of the Members) in respect of "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)" in response to the Request for Proposal (the "RFP") issued by the Authority dated [•].

We hereby confirm the following:

1. We _____ (name of the Bidder/ Member furnishing the Letter of Declaration), have examined in detail and have understood and satisfied ourselves regarding the contents including in respect of the following:
   - For the purpose of all subsequent communications with the Authority the Bidder shall be represented by _____(mention name of the authorized representative of the Bidder / Lead Member);
   - {The Joint Bidding Agreement has been signed between/among (names of the Members), as members of the Joint Venture/Consortium; and the Proposal is

For reference purpose only

being submitted on behalf of the Joint Venture/Consortium (name of the Lead Member).} *

- We have satisfied ourselves regarding our role as (here give a brief description of the role) in the Project as specified in the Proposal. If the Bidder / Joint Venture / Consortium is awarded the Project, we shall perform our role as outlined in the Proposal to the best of our abilities. We have examined the Proposal in detail and the commitments made in the same. We agree and undertake to abide by the Proposal and the commitments made therein.

2. We authorize _____(name of the authorized representative of the Bidder / Lead Member), as the Lead Member and authorize the same to perform all tasks including, but not limited to providing information, responding to enquiries, entering into contractual commitments etc. on behalf of the Joint Venture / Consortium, in respect of this Project.
3. {We understand that, no change in the membership in the Joint Venture/Consortium, in the role and form of responsibility of any Member shall be permitted after submission of the Proposal. If any change in the membership of the Joint Venture/Consortium is desired, it would need to be communicated to the Authority in writing for its approval. The Authority would reserve the right to reject such requests for a change of Joint Venture / Consortium structure, if in its opinion; it would adversely affect the same.} *

For and on behalf of:

[Signature]

(Authorized Representative and

Signatory) Name of the Person:

Designation:

* Applicable only in case of a Joint Venture/ Consortium

For reference purpose only

APPENDIX-**II**

Form-4: Declaration regarding customs / excise duty exemption for materials to be purchased for use in developing the Project (be submitted by the Preferred Bidder after opening of the Financial Bids by the Authority)

(Bidder's Name and Address)

To,

.....

.....

.....

Dear Madam/Sir,

Ref: Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)- **Certificate for Import / Procurement of Goods and materials / Construction Equipment.**

1. We confirm that we are solely responsible for obtaining customs/excise duty waivers which we have considered in our Proposal and in case of failure to receive such waivers for reasons whatsoever, the Owner will not compensate us.
2. We are furnishing below the information required by the Authority for issue of the necessary certificates in terms of the Government of India Central Excise Notification No. *** along with all subsequent amendments including the amendment dated *** and Customs Notification No. ***.
3. The goods, equipment and materials for which certificates are required are as under:

Items	**Make / Brand Name / Class**	**Capacity [where applicable]**	**Quantity**	**Value**	**State whether it will be procured locally or imported [if so from which country]**	**Remarks regarding justification for the quantity and their usage in development of the Project**
Goods						

For reference purpose only

[a]						
[b]						

4. We agree that no modification to the above list is permitted after Proposals are opened.
5. We agree that the certificate will be issued only to the extent considered reasonable by the Authority for the work, based on the Proposal submitted by us, the proposed methodology, technology and work plan furnished along with the Proposal.
6. We confirm that the above goods will be exclusively used for the construction of the above work. We are aware that exemption will be issued to only goods / material / equipment which form part of the work on permanent basis but not for the goods / material / equipment which are used by the us for execution of project and after completion of the project, the goods remain with the us being owner of such goods for further deployment in other projects.

Date:

Place:

(Signature)
(Printed Name)
(Designation)
(Common Seal)

For reference purpose only

Annexure I

Zone Information

Yelahanka zone, Dasarahalli Zone, East Zone and West Zone

Table 1 The distribution of Ward and Population in North Package.

Zone	Division	Sub-Division	Population 2023
Yelahanka Zone	Yelahanka	Yelahanka BBMP	134789
		Yelahanka Bangalore Urban District (Chikballapur)	103648
		Yelahanka Sattelite Town BBMP	133518
	Byatarayanapura	Byatarayanapura BBMP	123612
		Byatarayanapura Bangalore Urban District (Bangalore North)	64128
		Kodigehalli BBMP	115386
		Vidyaranyapura BBMP	346583
		Hosakote Bangalore Urban District (Chikballapur)	2711
Dasarahalli Zone	Dasarahalli	Shettyhalli BBMP	134363
		Dasarahalli BBMP	124621
		Peenya Industrial Area BBMP	61111
	Hegganahalli	Peenya Industrial Area BBMP	66011
		Hegganahalli BBMP	317122
East Zone	Hebbal	Hebbal BBMP	220896
		Hebbal Bangalore Urban District (Bangalore North)	2603
		J C Nagar BBMP	221483
	Pulikeshinagar	Kadugondanahalli BBMP	237834
		Pulikeshinagar BBMP	171178
	Sarvagna Nagar	Maruthisevanagar BBMP	242073
		HBR Layout BBMP	345301
	C V Raman Nagar	Jeevan Bhim Nagar BBMP	177045
		C V Raman Nagar BBMP	293502
	Shivajinagar	Shivajinagar BBMP	169727
		Vasanthnagar BBMP	161513
	Shanthinagar	Shanthinagar BBMP	164379
		Domlur BBMP	229917
West Zone	Malleswaram	Mathikere BBMP	166121
		Malleswaram BBMP	214962
	Gandhinagar	Gandhinagar BBMP	215304
		Chickpet BBMP	173383
	Rajajinagar	Sriram Mandira BBMP	177009
		Rajajinagar BBMP	186620
		Govindaraja Nagar BBMP	272491

For reference purpose only

	Govindaraja Nagar	Chandra Layout BBMP	205808
	Chamarajpet	J.J.R. Nagar BBMP	209713
		Chamarajpet BBMP	161787
	Mahalakshmipura	Mahalakshmipura BBMP	243119
		Nagpura BBMP	248238
Total BBMP + BUD Population			**68,39,609**
Floating Population in North Package			**4,89,207**
Total Population in North Package (2023)			**73,28,816**
Total Population in North Package (2030)			**95,15,142**

Table 2: The approximate and indicative Summary of Vehicles for Package:

Carrying capacity of Containers in Cum	No. of containers	No. of trips per Hook loader	Approximate Hookloaders required
20	**306**	**2**	**186**

For reference purpose only

Annexure II

[DELETED]

For reference purpose only

Annexure III

[DELETED]

For reference purpose only

Annexure IV
Information regarding Anti-Blacklisting – Affidavit

(On a Stamp Paper of value of Rs.100)

I. M/s. …… (Single Business Entity / Lead Member / Other Member/s), (the names and addresses of the registered office) hereby certify and confirm that we are not barred by Bengaluru Solid Waste Management Limited ("BSWML") / any other entity of Government of Karnataka or blacklisted by any state or central government / department urban local body / agency in India from participating in bidding process, either individually or as member of a Consortium in any of the last (3) three years.

We further confirm that we are aware that our Proposal for the Assignment would be liable for rejection in case any material misrepresentation is made or discovered with regard to the requirements of this RFP at any stage of the Bidding Process or thereafter during the agreement period.

Dated this …… Day of..... 20….

Signature of the Authorized person

Name of the Authorized Person

To be executed separately by all the Members in case of Consortium

[Notary Seal and Signature]

Concessionaire BSWML

For reference purpose only

Annexure V

Tentative location of the Package wise Processing plant location

Location of Processing Plant for North Package - Terrafirma Plant

Location (Latitude & Longitude) : 13.31857, 77.3723

Locality : Sakkaregollahalli, Karnataka

Area Available (Acre) : 90 Acre (Approx.)

Land Owned by : Private Land

Note: BSWML must procure the land at Terrafirma from private owner on standard purchase basis

SITE CONDITION

Electricity : Available

Water Line & Requirements : Available

Sewerage Line connection : Need to be established

Access Road : Available

For reference purpose only

Topography of the proposed processing plant Location

Location (Latitude & Longitude) : 13.31857, 77.3723

For reference purpose only

GOVERNMENT OF KARNATAKA

VOLUME: II

CONCESSION AGREEMENT

APPOINTMENT OF CONCESSIONAIRE ON TIPPING FEE BASIS TO EXECUTE THE COMPREHENSIVE INTEGRATED SOLID WASTE MANAGEMENT (ISWM) FACILITIES INCLUDING SECONDARY TRANSPORTATION OF MSW FROM TRANSFER STATIONS TO DESIGNATED PROCESSING CENTERS AND FURTHER PROCESSING AND DISPOSAL OF THE SAME

in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)

(Call-2)

BENGALURU SOLID WASTE MANAGEMENT LIMITED (BSWML)

No. 30/1, 1st and 2nd Floor, UNI Buildings, Thimmaiah Road, Vasanth Nagar,

Bengaluru – 560 002.

For reference purpose only

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For reference purpose only

DRAFT CONCESSION AGREEMENT

This Concession Agreement (CA) is entered into the day of 2025 at Bengaluru, Karnataka,

BETWEEN

1. The Bengaluru Solid Waste Management Limited (hereinafter referred to as "BSWML") represented by Managing Director (hereafter referred to "Authority") and having its offices at NO. 30/1, 1st and 2nd Floor, UNI Buildings, Thimmaiah Road, Vasanth Nagar, Bengaluru –560 002, which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns);

AND

2. (Limited), a company incorporated under the provisions of the Companies Act, 2013 represented by and having its registered office(s) at ( ), (herein after referred to as the "Concessionaire" which expression shall, unless repugnant to the context or meaning thereof, include its successors and permitted assigns and substitutes).

Collectively referred to as **"Parties"** and individually as "**Party"**

WHEREAS,

- UDD/GOK & BBMP, through the Government Order No. UDD 256 MNY 2020 Dated 05.03.21, has entrusted BSWML with such powers and functions as institutions of self-governance and assign to BSWML the tasks relating to solid waste management.
- The Authority is engaged in the management of municipal solid waste.
- BBMP and BSWML have jointly resolved to develop and operate an Integrated Solid Waste Management (ISWM) system. Under this Public-Private Partnership (PPP) arrangement, the selected bidders shall be responsible for the entire capital investment required to procure vehicles for transporting waste from transfer stations to the processing facility, as well as for establishing the integrated processing facilities and safe disposal of the waste thereafter. Concurrently, the Authority shall utilize its own funds to construct transfer stations within each division of the project jurisdiction and subsequently hand them over to the successful bidder. BBMP has identified appropriate land parcels for the ISWM facility and will provide these to BSWML on a permissive-use basis. These parcels shall, in turn, be handed over to

For reference purpose only

the Concessionaire on a similar permissive-use basis for the purposes of implementing this Project.

- By offering land and associated support infrastructure—treated as the public investment—and requiring bidders to fund vehicles, GPS/RFID systems, office infrastructure, workshops, parking yards, and facilities to process 100% of the municipal solid waste (before disposal in the sanitary landfill), the project adopts a "Design, Build, Operate, and Transfer" (DBFOT) PPP model, with all assets reverting to the Authority after the concession period.

- The cabinet of GoK has given the consent and approved the proposals to establish Integrated Solid Waste Management facilities in two packages and one among the two packages is the North Package for a Concession Period of 30 years from the COD.

- The Authority is desirous of "Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model)"(the "Project") by inviting Proposals for the Project; which will inter alia include setting up and operation of the Project in accordance with the terms and conditions to be set forth in the Agreement.

- The BSWML had accordingly invited proposals under its {Request for Proposals} No. ____ dated [•] (the "Request for Proposals" or "RFP") for short-listing of bidders for undertaking the development, operation and maintenance of the Project on Design, Build, Finance, Operate and Transfer (the "DBFOT") basis and had shortlisted certain bidders including inter alia, the {the selected bidder/consortium comprising ……. and ……. (Collectively, the "Consortium") with …….. as its lead member (the "Lead Member").

- After evaluation of the bids received, the BSWML had accepted the bid of the {selected bidder/ Consortium} (the "Selected Bidder") and issued its Letter of Award (hereinafter called the "LOA") No. …….. Dated … to the Selected Bidder requiring, inter alia, the execution of this Agreement within 30 (thirty) days of the date of issue thereof.

- {The Selected Bidder has since promoted and incorporated the Concessionaire ("Special Purpose Vehicle" or "SPV") as a company under the Companies Act, 2013 and has requested the Authority to accept the Concessionaire as the entity which

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shall undertake and perform the obligations under the Concession Agreement for implementing the Project.}.

- The Authority has {agreed to the said request of the Selected Bidder} and the Parties have accordingly agreed to enter into this Agreement with the Concessionaire for Development and Operation of Integrated Solid Waste Management System subject to and on the terms and conditions set forth hereinafter.
- Pursuant to the anticipated transition of the Bruhat Bengaluru Mahanagara Palike (BBMP) into the Greater Bengaluru Authority (GBA), all references to BBMP in this document shall be construed as referring to GBA from the date such transition takes effect, or as otherwise specified by official notification from the competent authority.

NOW THEREFORE in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the sufficiency and adequacy of which is hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

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ARTICLE 1 :DEFINITIONS AND INTERPRETATION

1.1. Definitions

1.1.1 The words and expressions beginning with capital letters and defined in this Agreement shall, unless the context otherwise requires, have the meaning ascribed thereto herein, and the words and expressions defined in the Schedules and used therein shall have the meaning ascribed thereto in the Schedules. The words and expressions used but not defined in this Agreement and defined in the Environment Protection Act, 1986 (the **"EPA"**), Solid Waste Management Rules, 2016 (the **"SWM Rules"**), the Construction and Demolition Waste Management Rules, 2016 (the **"C&D Rules"**), the Plastic Waste Management Rules, 2016 (the **"PWM Rules"**), the Bio-Medical Waste Management Rules, 2016 (the **"BWM Rules"**), the E-Waste Management Rules, 2016 (the **"EWM Rules"**), the Hazardous Waste Management Rules, 2016 (the **"HWM Rules"**),and Guidelines for Disposal of C&D Waste, 2019 (the **"C&D Waste Guidelines"**), shall have the respective meanings as are assigned to them, respectively, in the EPA, the SWM Rules, the C&D Rules, the PWM Rules, the BWM Rules, the EWM Rules, the HWM Rules, and the C&D Waste Guidelines.

The words and expressions beginning with capital letters and defined in this document shall, unless repugnant to the context, have the meaning ascribed thereto herein. The words and expressions beginning with capital letters and not defined herein, but defined in the Agreement, shall, unless repugnant to the context, have the meaning ascribed thereto therein.

1.2. Interpretation

1.2.1 In this Agreement, unless the context otherwise requires,

- Any reference to a statutory provision shall include such provision as is from time to time modified or re-enacted or consolidated so far as such modification or re-enactment or consolidation applies to, or is capable of being applied to any transactions entered into hereunder;
- References to Applicable Laws shall include the laws, acts, ordinances, rules, regulations, notifications, guidelines or bylaws which have the force of law;
- The words importing singular shall include plural and vice versa, and words denoting natural persons shall include partnerships, firms, companies, corporations, joint ventures, trusts, associations, organizations or other entities (whether or not having a separate legal entity);
- The headings are for convenience of reference only and shall not be used in, and

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shall not affect, the construction or interpretation of this Agreement;

- The words "include" and "including" are to be construed without limitation;
- Any reference to any period of time shall mean a reference to that according to Indian Standard Time;
- Any reference to a "business day" shall be construed as a reference to a day (other than a Sunday or any holiday declared by GOI / GOK) on which banks. are generally open for business;
- Any reference to a day, month or year shall mean a reference to a calendar day, calendar month or calendar year respectively;
- The schedules and annexures to this agreement form an integral part of this Agreement as though they were expressly set out in the body of this Agreement;
- Any reference at any time to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference.
- References to recitals, Articles, sub-articles, clauses, or Schedules in this Agreement shall, except where the context otherwise requires, be deemed to be references to recitals, articles, sub-articles, clauses and schedules of or to this agreement.
- Any reference to any period commencing "from" a specified day or date and "till" or "until" a specified day or date shall include both such days or dates; provided that if the last day of any period computed under this Agreement is not a business day, then the period shall run until the end of the next business day;
- Any reference to ‘construction’ or ‘building’ includes unless the context otherwise requires, investigation, design, developing, engineering, procurement, delivery, transportation, installation, processing, fabrication, testing, commissioning and other activities incidental to the construction, and ‘construct’ or ‘build’ shall be construed accordingly.
- Any reference to "development" include, unless the context otherwise requires, construction, renovation, refurbishing, augmentation, up gradation and other activities incidental thereto, and “develop” shall be construed accordingly;
- The Damages payable by either Party to the other, as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre- estimated loss and Damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the “Damages");

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- Time shall be of the essence in the performance of the Parties' respective obligations. If any time period specified herein is extended, such extended time shall also be of the essence; and
- Any agreement, consent, approval, authorization, notice, communication, information or report required under or pursuant to this Agreement from or by any Party shall be valid and effectual only if it is in writing under the hands of duly authorized representative of such Party in this behalf and not otherwise;
- References to any gender shall include the other and the neutral gender;
- "Lakh" means a hundred thousand (100,000) and "crore" means ten million (10,000,000);
- "Indebtedness" shall be construed so as to include any obligation (whether incurred as principal or surety) for the payment or repayment of money, whether present or future, actual or contingent.
- References to the "winding-up", "dissolution", "insolvency", or "reorganization" of a Company or corporation shall be construed so as to include any equivalent or analogous proceedings under the law of the jurisdiction in which such Company or corporation is incorporated or any jurisdiction in which such Company or corporation carries on business including the seeking of liquidation, winding-up, reorganization, dissolution, arrangement, protection or relief of debtors;
- Save and except as otherwise provided in this Agreement, any reference, at any time, to any agreement, deed, instrument, license or document of any description shall be construed as reference to that agreement, deed, instrument, license or other document as amended, varied, supplemented, modified or suspended at the time of such reference; provided that this Sub- clause (u) shall not operate so as to increase liabilities or obligations of BSWML hereunder or pursuant hereto in any manner whatsoever;
- Any agreement, consent, approval, authorization, notice, communication, information or report required under or pursuant to this Agreement from or by any Party shall be valid and effective only if it is in writing under the hand of a duly authorized representative of such Party in this behalf and not otherwise;
- The Schedules and Recitals to this Agreement form an integral part of this Agreement and will be in full force and effect as though they were expressly set out in the body of this Agreement;
- References to Recitals, Articles, Clauses, Sub-clauses, Provisos or Schedules in this Agreement shall, except where the context otherwise requires, mean references to

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Recitals, Articles, Clauses, Sub-clauses, Provisos and Schedules of or to this Agreement; reference to an Annex shall, subject to anything to the contrary specified therein, be construed as a reference to an Annex to the Schedule in which such reference occurs; and reference to a Paragraph shall, subject to anything to the contrary specified therein, be construed as a reference to a Paragraph of the Schedule or Annex, as the case may be, in which such reference appears;

- The damages payable by either Party to the other of them, as set forth in this Agreement, whether on per diem basis or otherwise, are mutually agreed genuine pre-estimated loss and damage likely to be suffered and incurred by the Party entitled to receive the same and are not by way of penalty (the "Damages"); and time shall be of the essence in the performance of the Parties" respective obligations. If any time period specified herein is extended, such extended time shall also be of the essence.

1.2.2 Unless expressly provided otherwise in this agreement any documentation required to be provided or furnished by the Concessionaire to the Authority and/or Independent Engineer shall be provided free of cost and in three copies, and if the Authority and / or the Independent Engineer is required to return any such documentation with their comments and /or approval, they shall be titled to retain two copies thereof.

1.2.3 The rule of construction, if any, that a contract should be interpreted against the Parties responsible for the drafting and preparation thereof, shall not apply.

1.2.4 Any word or expression used in this Agreement shall, unless otherwise defined or construed in this Agreement, bear its ordinary English meaning and, for these purposes, the General Clauses Act 1897 shall not apply.

1.2.5 The Parties acknowledge that damages for specific defaults prescribed under this Agreement are a genuine pre-estimate of and reasonable compensation for the loss and damage that shall be suffered by the non-defaulting Party due to failure of the defaulting Party to perform its obligations in accordance with this Agreement, and are not in the nature of a penalty.

1.2.6 Subject to the provisions of this Agreement, the Concessionaire shall be responsible to and indemnify, the Authority for the acts and omissions of the Concessionaire Related Parties as if they were the acts and omissions of the Concessionaire and the Authority shall be responsible to and indemnify the Concessionaire for the acts and omissions of Authority Related Parties, respectively, as if they were the acts and omissions of the Authority, as the case may be.

1.2.7 Neither the giving of any approval or consent, the review, knowledge or acknowledgement

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of the terms of any document by or on behalf of the Authority, nor the failure to do so, shall, unless expressly stated in this Agreement, relieve the Concessionaire of any of its obligations under this Agreement or of any duty which it may have under this Agreement to ensure the correctness, accuracy or suitability of the matter or thing which is the subject of the approval, consent, review, knowledge or acknowledgement.

1.3. Measurements and arithmetic conventions

All measurements and calculations shall be in the metric system and calculations done to 2 (two) decimal places, with the third digit of 5 (five) or above being rounded up and below 5 (five) being rounded down; provided that the drawings, engineering dimensions and tolerances may exceed 2 (two) decimal places as required.

1.4. Priority of agreements, clauses and schedules

1.4.1 This Agreement, and all other agreements and documents forming part of or referred to in this Agreement are to be taken as mutually explanatory and, unless otherwise expressly provided elsewhere in this Agreement, the priority of this Agreement and other documents and agreements forming part hereof or referred to herein shall, in the event of any conflict between them, be in the following order:

- this Agreement; and
- Schedules of Draft Concession Agreement
- Project Information Memorandum
- Request for Proposal / Tender Documents
- Corrigendum's & Addendums part of the tender documents.

1.4.2 Subject to the provisions of Clause 1.4. in case of ambiguities or discrepancies within this Agreement, the following shall apply:

- between two or more Clauses of this Agreement, the provisions of a specific Clause relevant to the issue under consideration shall prevail over those in other Clauses;
- between the Clauses of this Agreement and the Schedules, the Clauses shall prevail and between Schedules and Annexes, the Schedules shall prevail;
- between any two Schedules, the Schedule relevant to the issue shall prevail;
- between the written description on the Drawings and the Specifications and Standards, the latter shall prevail;
- between the dimension scaled from the Drawing and its specific written dimension,

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the latter shall prevail; and

- between any value written in numerals and that in words, the latter shall prevail.

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ARTICLE 2 : SCOPE OF WORK

2.1. Name of the work

Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (PPP mode – DBFOT Model). This package comprises of the 4 Zones of BBMP along with neighboring areas of the Bangalore Urban District, as detailed in Annexure I of the RFP.

2.2. Introduction

An Integrated Solid Waste Management (ISWM) facility has been conceptualized to offer a comprehensive solution for the processing of solid waste generated in Bengaluru City, at various locations as per project requirements. The ISWM Project involves secondary transportation of municipal waste and further processing solid waste into new or recycled products through methods such as composting, bio-methanation, waste-to-energy from RDF, pelletization, or other proven technologies, in accordance with the standards outlined in the Background Documents, Solid Waste Management Rules 2016, SBM 2.0, and other applicable laws and amendments during the concession period.

The aim is to process all waste generated and generate revenue by applying circular economy principles, thereby reducing the burden on landfills. This shall be achieved through an integrated system of secondary transport, processing and disposal. The entire system shall comply with the Solid Waste Management Rules, 2016 and meet the KPIs outlined in Article 19 of the DCA.

The scope of the Project (the—Scope of the Project) shall mean and include, during the Concession Period, Design, Build, Finance, Operate and Transfer (DBFOT) of facilities and infrastructure for:

- Transportation of MSW from the Transfer Stations
- O&M and Maintenance of Transfer Stations
- Design, Development, Operation, Maintenance, and Management of Integrated Processing Facility for MSW
- Design, Development, Operation, Maintenance, and Management of Sanitary

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Landfill for disposal of remnants and residual inert matters from processing of MSW

- Generation of revenue from sale of reusables and recyclables (if any), sale of by-products or output from processing of MSW (like gas, electricity, etc.), and generation of financial benefits from carbon credits

2.2.1 Secondary collection, segregation, and transportation of MSW

The Concessionaire shall be responsible for the following tasks related to Secondary Transportation, starting from at least [90 (ninety)] days prior to COD, or within 90 (ninety) days from the date of handover of the Transfer Station(s) to the Concessionaire in that division.

- **Transportation of MSW from the Transfer Stations:** The Authority/Authority's agencies will bring in MSW generated in the Project Area and the waste collected from the street sweeping activity to the Transfer Stations. The Concessionaire shall be required to transport the waste from the Transfer Stations, starting from the Date of Commercial Operation (considering Mobilization Period as per the Agreement) or from the handover of the Transfer Station, whichever is later till the expiry of the Concession Period. The same shall be done in an order to ensure the following:
    - **Transport to Concessionaire's processing facilities:** Concessionaire shall be responsible to conduct Secondary Transportation from the transfer stations to their designated waste processing and disposal site(s) (Note: There are some divisions where Transfer Stations exist and are being operated by another agency contracted by the Authority, wherein the responsibility for Secondary Transport will be handed over to the Concessionaire at the expiry of the existing contracts. More details are given in Annexure 1 of PIM.)
    - **Integration with existing plants for BSWML**: Concessionaire shall be responsible to conduct Secondary Trasport from the notified Transfer Stations to Existing plants where BBMP has existing commitments (Annexure 1 of PIM for details regarding location, capacity and type of waste required, tagging with transfer stations, duration of commitment)

      (It is to be noted that BSWML has existing commitment of secondary transportation of 500 TPD across the BBMP + BUD with another Agency, which shall continue as per the existing contract.)
    - **Integration with Dry Waste Collection Centers (DWCCs):** Concessionaire shall be required to collect the dry waste from the DWCCs and perform Secondary Transport from the DWCCs to the designated waste processing and

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disposal site(s) after extraction of recyclable materials by ragpickers. Refer Annexure 1 of PIM for details regarding DWCCs in the package, location, capacity, assets included, layout, manpower engaged, etc. These will continue to be operated by the ragpickers associations, as per current scenario.

- **Operation & Maintenance and Management of Transfer Stations:** Some Transfer Stations in this package are currently operational and operated by agencies contracted by the Authority. Refer Annexure 1 of PIM for details regarding the current operator, assets in place, layout, duration of existing contract and scope of work for each of them. These (and the responsibility for Secondary Transportation under these Transfer Stations) will be handed over to the Concessionaire after a period of 5-7 years, as soon as the current agreement expires. Until such time, the Concessionaire will not be responsible for operation of Transfer Station or to perform Secondary Transport in these respective areas.

- Wherever a Transfer Station doesn't currently exist, Authority shall be responsible to construct and handover Transfer Stations to the Concessionaire at their own cost, including civil structures, machinery, containers, hookloaders, etc. The Authority plans to develop such Transfer Stations in this package within the next 1-2 years. Refer Annexure 1 of PIM for details regarding location, capacity, details regarding assets and layout of the planned Transfer Stations. As soon as a new Transfer Station is constructed, it shall be handed over to the Concessionaire along with scope of Secondary Collection & Transportation in that area. Until such time, the Secondary Transportation in that area shall be done by the Authority/contractors of the Authority engaged in Primary C&T. (All the Transfer Stations, existing and new, being handed over shall include hook-loaders and containers provided by the Authority on an as-is, where-as basis.) Until the facility COD is achieved, the Concessionaire shall transport waste from the new Transfer Stations to designated place as notified by the Authority within the aggregate lead distance considered.

  Irrespective of the date of handover of the Transfer Stations to the Concessionaire, all Transfer Stations and the scope of work therein shall be handed back to the Authority 30 years from the date of the COD of the processing & disposal facility.

  The Authority shall have no obligation to perform any additional capital expenditure towards the Transfer Stations of vehicles over the course of the Concession Period pertaining to the Project Area, and the same shall be in the scope of the Concessionaire.

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2.2.2 Processing & Disposal of MSW as per SWM Rules

- **Design, Development, Operation, Maintenance, and Management of Integrated Processing Facility**: It is proposed to develop new facilities for Processing & Treatment of MSW as per MSW Rules and other applicable regulations for MSW processing, resource recovery, treatment, and disposal (P&D) facilities. Concessionaire shall develop the Project Facilities using technology or technologies that it had proposed in its Bid to the RFP, adhering to Solid Waste Management Rules, 2016 and in accordance with terms of this Agreement. Concessionaire shall be responsible for Construction of the Integrated Processing Facility within 24 months from handover of the site or getting Environmental Clearance and Consent to Establish,, whichever is later; and operating the same for 30 years post COD.

- **Design, Development, Operation, Maintenance, and Management of Sanitary Landfill for disposal of remnants and residual inert matters from processing of MSW:** It is proposed to develop new sanitary disposal landfill and a leachate treatment plant (LTP) for management of inerts to be landfilled after processing of MSW. Concessionaire shall be responsible to transport inert and post-processing inert materials from their own processing sites to the landfills. Concessionaire shall be responsible for Construction of the Sanitary Landfill and the Leachate Treatment Plant (as per discretion of the Concessionaire), within 24 months from handover of the site or getting Environmental Clearance and Consent to Establish,, whichever is later;; and operating the same for 30 years post COD. Furthermore, the Concessionaire shall be responsible for performing post-closure activities as per prevailing guidelines of Central Pollution Control Board, State Pollution Control Board, SWM Rules, etc. over the next 15 years to ensure proper closure of the landfill.

- The **revenue or income from the sale of segregated useful materials**, including reusable and recyclable materials (if any), compost, soil conditioner, raw RDF, C&D waste, soil, power, electricity, or any other by-products, shall accrue to the Concessionaire. The Concessionaire shall also be responsible to take necessary action to accrue benefits from Carbon Credits, as per Clause 5.1.7 (hh), and subsequently share 50% of the benefits accrued from the Carbon Credits of the Project with the Authority.

2.2.3 Bulk Waste management:

- The management of bulk waste shall not be included within the Concessionaire's scope. However, the Concessionaire shall be empaneled as an Authorized Waste

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Processor for bulk waste as per existing bylaws of the BBMP and BSWML and encouraged to collect, transport, and process bulk waste at the ISWM facility. The Concessionaire shall be allowed to charge a Service Fee to BWGs, in line with the "Polluter Pays" principle of SWM Rules, 2016. The Concessionaire is to conduct their own analysis and survey of the bulk waste generated to ascertain the processing capacity of the plant(s) required.

- Since this is a commercial activity conducted on government land, the Concessionaire shall remit INR 800 per TPD of bulk waste handled. This amount shall be escalated by 5% every year in line with the escalation in the tipping fee).
- All BWGs shall be audited by the Authority/BBMP as per prevailing regulations and reporting requirements. Those entities found deficient shall be directed to employ the services of the Concessionaire for the purpose of management of the bulk waste generated by them.

2.3. Planned Project Capacity

2.3.1 The comprehensive Integrated Solid Waste Management (ISWM) Project is intended to cover the entire jurisdictional area encompassing the full extent of BBMP limits and the Bengaluru Urban District area. This area is distributed across two packages, with the jurisdiction pertaining to North Package detailed more precisely and annexed as Annexure-I of the RFP.

2.3.2 Based on 2011 Census data, waste generation (excluding bulk waste) within the Project Area has been projected for 2030. While the facility is expected to commence operations around the year 2028, the waste generation estimates have been calculated for 2030 in order to account for full operational capacity and long-term planning. By 2030, the total municipal solid waste from households and street-sweeping activities—excluding bulk waste—is expected to be 4,047 tonnes of waste per day (TPD). Of this, 976 TPD is already committed to existing facilities for P&D. Once these commitments are accounted for, the Package shall have to deal with 3,822 TPD for Secondary Transportation and 3,073 TPD for Processing and Disposal.

2.3.3 The proposed planned capacity has been assessed and planned to meet the projected demand of Year 2030. Due to variations on a daily basis, the Concessionaire must accept maximum up to 125% of the Planned Capacity on any given day. As the waste generated within the Project Area increases over time, the Authority shall be free to execute other processing and/or disposal projects by calling tenders; wherein the Concessionaire shall have the First Right of Refusal for participation in such tenders, provided that the Concessionaire bids within 10% of the Preferred bidder. For the avoidance of doubt, it is

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hereby clarified that, for any new tenders pertaining to Processing and/or Disposal of municipal solid waste in the Project Area, the Concessionaire shall be invited to match the bid of the Preferred bidder, subject to the condition that the Concessionaire's bid is within 10% of the Preferred bidder.

2.3.4 The Authority shall provide a Minimum Waste Guarantee, i..e, minimum amount of waste that shall be delivered to the Transfer Stations (excluding the amount committed to existing plants) equal to 50% of the Planned P&D Capacity in the first 5 years after COD, and equal to 75% of the Planned P&D Capacity thereafter. This shall include the waste from Bulk Waste Generators, if any, accepted for processing by the Concessionaire.

Planned Capacity	Secondary Transportation (TPD)	Processing & Disposal (TPD)
North Package	3,822	3,073

2.4. Detailed Scope of Work:

2.4.1 Scope of work for Secondary Transportation:

- The average trip distance considered for secondary transportation—from the Transfer Station to the entry point of the processing plant up to the weighbridge—is estimated at 75.00 kilometers. However, this distance may vary depending on the final locations of the Transfer Stations and the processing facility. In cases where the actual average trip distance varies by more than 10% from the estimated average, the additional lead distance for secondary transportation shall be considered for reimbursement, subject to the prior approval of the Authority. The final average trip distance shall be established based on the confirmed location of the weighbridge at the processing plant.
- Secondary transportation shall be executed using large-sized static compactors capable of compressing municipal solid waste. Leachate generated during the compaction process shall be collected through designated leachate collection pits. The compacted waste shall be stored in containers provided by the static compactors and transported using hook loaders.
- The Concessionaire shall submit a comprehensive plan and route map detailing the methodology for the secondary transportation of Municipal Solid Waste (MSW).
- The jurisdictional area under the scope of this package comprises sixteen (16) divisions. Each division shall be provided with a Transfer Station, to be developed by BSWML and subsequently handed over to the respective Concessionaire for that jurisdiction. At the Project level, three (3) transfer stations are currently under AMC contracts with a tenure of seven years. Upon termination of these contracts and

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based on mutual consent between the Authority and the Concessionaire, these transfer stations shall be handed over on an as-is basis, along with the Secondary Transportation (C&T) scope under the corresponding ISWM package. Four (4) new transfer stations, currently under construction, shall be handed over to the Concessionaire along with the Secondary Transportation scope of the respective ISWM package. The additional transfer stations required under the respective package shall be developed by the Authority at its own cost and handed over to the Concessionaire in a phased manner, along with the corresponding Secondary Transportation responsibilities. The same shall be completed within the first 2 years from the Execution Date. Package-wise details of the Transfer Stations are provided in Annexure 1 of PIM.

- The operation and maintenance of Transfer Stations handed over to the Concessionaire shall be the sole responsibility of the Concessionaire throughout the Concession Period.
- MSW operations are essential in nature and should have continuity without any interruption. The Concessionaire should work out a detailed plan with the Authority. The detailed transition plan shall be submitted by the Concessionaire within 90 days of appointment date and approved by the Authority and the same shall be implemented. While implementing the transition plan there should be a smooth and seamless handing over and taking over of the operations and public should not get any inconvenience of disruption of service.
- [Deleted]
- The commencement of Secondary Transportation activities shall be undertaken by the Concessionaire in a phased manner, subject to the completion or termination of contracts that may be active within each respective Zone.
- The Concessionaire shall initiate the operation and maintenance of Transfer Stations, including storage, handling of waste, and transportation of Refuse-Derived Fuel (RDF) from designated Dry Waste Collection Centers (DWCCs) (as per Annexure 1 of PIM) to the Project facilities or to the existing commitment plants (as per Annexure 1 of PIM), immediately upon execution of the Concession Agreement. Delays in commencement of any activity under the agreed scope of work shall attract penalties in accordance with the Key Performance Indicators (KPIs) specified under Article 19 of the Concession Agreement.

Compliance

- Each vehicle must display the designated route map and be integrated with the

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Integrated Command and Control Centre (ICCC) of the Authority via the Concessionaire's own software. The Concessionaire shall be responsible for completing all necessary activities, including obtaining statutory clearances related to land development, and mobilization/procurement of equipment, vehicles, machinery, and other resources essential for the transportation of MSW from the BBMP jurisdiction and Bengaluru Urban District areas, as specified for North Package in Annexure-1 of the RFP document.

- The Concessionaire shall provide real-time data feeds and monitoring capabilities to BSWML to ensure continuous oversight of vehicle movements and operational transparency throughout the concession period.
- A Vehicle Tracking and Management System (VTMS) shall be mandatorily installed on all vehicles, containers, and weighbridges used for MSW transportation and post-processing reject disposal. The VTMS shall be a web-based application with real-time GPS tracking, GIS integration, and client-side connectivity at all key locations, including the weighbridge.
- The Concessionaire shall supply all necessary hardware and infrastructure, including personal computers/laptops, printers, GPS devices, network links, SIM cards/dongles, and antivirus software. VTMS data shall be integrated with BSWML's municipal server via the IT Department, and training shall be provided to municipal and Authority staff. Vehicles shall be equipped with loading/unloading switches. Availability of VTMS data shall be a mandatory requirement for tipping fee disbursement.
- All vehicles must be fully connected to the BSWML server through VTMS to enable uninterrupted tracking and monitoring. Each vehicle shall also be fitted with a GPS device that remains operational at all times, with the live feed integrated into BSWML's monitoring platform and website.
- All vehicles deployed shall comply with prevailing emission norms, and valid Fitness Certificates (FCs) must be obtained from the RTO as per statutory requirements.
- Noise and air pollution levels shall be monitored in line with norms prescribed by the RTO and Karnataka State Pollution Control Board (KSPCB). Relevant certificates shall be obtained periodically and prominently displayed on each vehicle.

2.4.2 Scope of work for Processing and Disposal:

- The Estimated waste quantum of the package has been arrived as 3,073 TPD

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towards Processing & Disposal which excludes bulk waste to be transported as well as discounts the Waste to be supplied to the existing commitments of corresponding package.

- The Concessionaire shall prepare a comprehensive proposal for processing the total estimated waste of 3,073 TPD, and undertake the design, development, operation, and maintenance of new integrated Solid Waste (SW) Processing, Resource Recovery, Treatment, and Disposal (P&D) facilities. The proposal shall incorporate appropriate technologies for processing the waste received at the plant. The technologies proposed must be in line with those approved under SWM Rules, 2016 (or any amendments thereof), or any other technologies approved by the CPCB, State PCB, or other relevant statutory bodies in India or abroad.
- The Concessionaire shall undertake the planning, engineering, designing, construction, operation, and maintenance of MSW Processing, Resource Recovery, Treatment, and Disposal (P&D) facilities, including a scientifically engineered sanitary landfill, Leachate Treatment Plant (LTP), and all auxiliary infrastructure such as stormwater drainage, internal roads, weighbridges, vehicle parking yards, workshops, canteens, administration buildings, laboratories, and other appurtenant structures as per operational and regulatory requirements.
- The Concessionaire shall establish the required number of processing/ resource recovery projects, which may include waste-to-energy projects, bio-methanation, composting, compressed bio-gas (CBG) projects, MRF facilities, or any other suitable and sustainable technologies. These technologies must conform to SWM Rules, 2016 (or any amendments thereof), or be approved by the CPCB, State PCB, or other statutory bodies, and shall be implemented either at locations indicated by the Authority or at alternative sites approved by the Authority.
- The Concessionaire shall install weighbridges at both the entry and exit points of the processing plant. Both weighbridges shall be synchronized with GPS and RFID mechanisms, at locations and configurations as deemed appropriate and mutually agreed upon with the Authority.
- The Concessionaire shall also develop waste management facilities for the treatment and disposal of dead animals, sanitary waste, and any other waste types as authorized by the Authority as per the SWM Rules of 2016.
- The successful Bidder is at liberty to choose the Proven and demonstrated technology in the beginning and during the course of the project. Any advanced technology which can improve the performance shall be permitted unconditionally. The technologies may be Compost / RDF / Waste to Energy / Bio Methanation /

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Dry Methanation / Pyrolysis / Plasma or any other technology which is proved and can be implemented to improve the processing and disposal is within the scope of the Concessionaire but should meet the SWM Rules, 2016 & SBM 2.0 guidelines.

- Authority desires that its Solid Waste Management system shall be a 'model system' for the Country, which would scientifically collect waste from waste generator and bulk generators, transport, process and dispose of Municipal Solid Waste to have maximum recycling and recovery, Without prejudice to the generality of the foregoing, Concessionaire shall have the right to develop the Project Facilities using such technology that it considers suitable and commercially viable for the purposes of implementing the Project, in accordance with terms of this Agreement and Applicable Law. It is acknowledged that it is the intention of Concessionaire to use the technology associated with the concept of an integrated waste processing plant, the specifications of which are given in schedule 23, and that Concessionaire shall have the right to modify, adapt, upgrade or change the technology, from time to time, based on actual operations of the Plant and requirements of the Project.
- The revenue or the income from the sale of the segregated useful material such as reusables and recyclables, compost, soil conditioner, user charges from bulk waste generators, raw RDF, C&D, Soil, sale of power, electricity or any other by-product materials shall be in the scope of the Concessionaire and Concessionaire shall take such additional revenue into account while estimating the tipping fee sought.

2.4.3 Items excluded from Scope of work

The following nature of scope is not considered as the part of Concessionaire's scope of work under this Agreement:

- Receive, manage, process or dispose Bulk Waste Generated
- Receive, manage, process or dispose Biomedical Waste Management
- Receive, manage, process or dispose Industrial Waste Management
- Receive, manage, process or dispose Construction & Demolition Waste
- Sweeping of streets (Manual and/or Mechanical)
- Drain cleaning / Silt clearing
- Maintenance / cleaning of parks
- Maintenance of public places / toilets
- Removing and Transportation of carcasses (dead animals)

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- Management of Domestic Hazardous Waste: Hazardous waste such as physical, chemical, biological, reactive, toxic, flammable, explosive, or corrosive waste, if found, during excavation, sorting or segregation shall be stored in a separate area for inspection by authorities of the Municipal Corporation, which will arrange to shift, transport, and dispose by authority as per the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016.
- It is hereby clarified that the Concessionaire may undertake management of bulk waste and/or domestic hazardous waste as per the applicable rules and regulations at no additional cost to the Authority, and at their own discretion.

2.5. Role of Authority (BSWML):

- The Authority shall initiate and implement appropriate processes to expedite land acquisition required for the development of the Integrated Solid Waste Management (ISWM) processing and disposal facilities.
- The Authority shall ensure the smooth transition and handover of all relevant existing project facilities, including fixed and mobile assets related to municipal solid waste management. This shall include, but not be limited to Facilities for Secondary Transportation, as applicable.
- The Authority will provide suitable, sufficient and encumbrance free land for construction of Integrated processing & disposal facilities and all other facilities required for the entire term of the agreement at permissive use only (Article-10.1). The details of the potentially available land parcels are annexed as part of the RFP. In the case of delays and/or issues in the procurement of the proposed land, the Authority may provide alternative land at a similar distance. In case if the variation in distance of the alternate site is more than 10%, the tipping fee shall be upward or downward revised basis mutual agreement of the Concessionaire and the Authority, as per the recommendation of the Independent Engineer.
- The Authority shall permit the Concessionaire to utilize and obtain utilities necessary for the construction and operation of the project facilities, subject only to payment of applicable user charges, without levying any additional fees.
- The Authority shall provide institutional support by issuing required letters or endorsements to concerned departments and facilitating the execution of necessary agreements between the Concessionaire and relevant agencies involved in the ISWM project.
- The Authority shall ensure timely payments of all dues payable to the

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Concessionaire under this Agreement, in accordance with the prescribed timelines.

- The Authority shall recognize the Special Purpose Vehicle (SPV) as the legal entity authorized to undertake and perform the rights and obligations of the Selected Concessionaire under this Agreement. The Selected Bidder shall maintain a minimum of 51% (fifty-one percent) shareholding in the SPV throughout the Concession Period. Upon incorporation, the SPV shall be treated as a permitted assignee, and shall enter into a novation agreement with the Authority within 15 days from the date of incorporation.
- The Authority shall have right over assets and technology in case of termination or expiration of Concession Period, whichever is earlier, upon due payment of Termination Payments if applicable.
- The Authority assures to Concessionaire that any of its officers, employees, or workmen shall not, at any time, during the concession period interfere with or obstruct the functioning, running, and overall management of the project and in any matter about or connected therewith.
- The Authority shall appoint the Independent Engineer within 75 days from the date of signing of the Concession Agreement through a tender process to monitor the project execution and implementation.
- The Authority will provide necessary support to Concessionaire in securing Applicable Approvals.
- The Authority shall observe and comply with all its obligations as specified under this Concession Agreement.

2.6. Role of Concessionaire:

- Design Build Finance Own & Transfer (DBFOT) on Public Private Partnership ("PPP") mode with 100% Concessionaire investment to execute the comprehensive Integrated Solid Waste Management (ISWM) facilities including collection & transportation of MSW from transfer stations to designated processing centers and further Processing and Disposal of the same at designated processing plant within the jurisdiction of the package.
- To adopt the existing system (to the extent handed over by the Authority) and upgrade, modernize and make user-friendly over a period. To ensure revamping, redevelopment, operation and maintenance of all existing and new facilities including SCTPs, TS, MRFs, Fleets, Vehicle parking yards and workshops etc. To utilize the existing infrastructure like DWCC, vehicles, transfer stations, etc., 'as is

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where' is applicable.

- To establish, operate and maintain all facilities for handling, processing and disposal of MSW and other wastes as per proposal and in line with relevant Rules for the entire project period.
- To design, engineer, finance, procure, construct, install, commission, operate and maintain each of the Project Facilities.
- To choose proven and demonstrated technologies available for processing and disposal of MSW which are permitted as per SWM Rules, 2016, CPHEOO guidelines and SBM 2.0 Guidelines. The Concessionaire is free to choose technology, which is proven, viable and sustainable. To ensure adherence to meet all the construction requirements as per guidelines for construction as per BIS, Solid Waste Management Rules, 2016, and other applicable standards/ guidelines.
- To undertake operation and maintenance of the project facilities using best in class technology, environmental, health and safety SOP's and a service delivery model either itself or through such Person as may be selected by it that is reliable, cost effective and compliant provided that and the ultimate obligation and responsibility for the performance of this agreement shall continue to vest with the Concessionaire.
- To undertake storage, usage, marketing, and selling or disposal of all the products and by products generated, produced at the processing and treatment facility (including but not limited to RDF, steam, compost, electricity, methane, CNG/CBG, and Residual Inert Waste, any product or by product) and to generate revenue from the above processes to meet the project requirements
- To retain all kinds of revenues generated from the sale of such recyclable products (RDF, Sync gas, Steam, compost, electricity, methane, CNG/CBG, and Residual Inert Waste) with no sharing to BBMP or Govt of Karnataka /India state Electricity Distributors companies and its entities.
- To retain the fiscal incentives and benefits accruing in respect of or on account of the Project including Certified Emission Reductions (CERs) or Verified Emission Reductions (VERs) under Kyoto Protocol / Climate Change initiative, in a ratio of 50:50, wherein half the proceeds shall be shared with the Authority.
- To undertake Information, Education, & Communication (IEC) campaigns with the public and all stakeholders in BBMP Area to inculcate good MSW management practices, including recycling, and segregation.
- To interface, synchronize with existing organized and unorganized waste-collection

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and management systems to ensure that there is a smooth and harmonious transition and working of the systems and proper quality of waste is received at the site.

- To exclusively hold, possess, and control the Site, in accordance with the terms of the Concession Agreement for the purposes of the due implementation of this Project.
- To transfer the Project Facilities to the Authority at the end of the Term or on Termination, in accordance with the provisions of this Agreement.
- To ensure optimum utilization of the Site and land available and not use the same for any purpose unconnected or which is not incidental to the Project or related activities, unless otherwise permitted under this agreement. For avoidance of doubt, any land given by BSWML/BBMP to the Concessionaire for this project shall not be used for development of residential or commercial facilities or premises for rent, lease or similar purpose.
- To mobilize resources for Secondary Transportation within the stipulated time period. Mobilization period for Secondary Transport shall within 03 months before the COD or 3 months from the date of handing over of the Transfer Station, whichever is earlier. Mobilization period includes time to obtain all the necessary clearances & approvals from relevant authorities and deploy the vehicles & manpower for secondary transportation. If the delay is beyond the control of the Concessionaire, then the mobilization period shall be extended based on the reasons recorded and in such recorded hindrances justified by the engineers in charge or the authorised representative of the Authority.
- Special purpose vehicle(‘s) (SPV) shall be established under the Companies Act 2013 for executing the project, where the Concessionaire shall undertake and perform the obligations and exercise the rights of the Consortium/Selected Bidder under the LOA, including the obligation to enter into this Concession Agreement pursuant to the LOA for executing the Project.

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ARTICLE 3 :THE CONCESSION

3.1. Grant of Concession:

Subject to and in accordance with the provisions of this Agreement, Applicable Laws and Applicable Permits, the Authority awards to the Concessionaire the concession set forth herein including exclusive right, license and authority to construct, operate and maintain the Project (the "Concession") during the period of 30 (thirty) years commencing from Commercial Operation Date (the "COD") of the Processing and disposal facilities, and the Concessionaire hereby accepts the Concession and agrees to implement the Project subject to and in accordance with the terms and conditions set forth in this Agreement.

3.2. Rights Associated with the Grant of Concession:

Without prejudice to the generality of foregoing, the Concession hereby granted to Concessionaire shall oblige or entitle (as the case may be) the Concessionaire to:

3.2.1 the Right of Way, access and license rights to use the Site on permissive use basis for the purpose of and to the extent conferred by the provisions of this agreement;

3.2.2 access to the Site from the Compliance Date, for the sole purpose of implementing the Project, provided, however, to the extent of applicability of the Article 14.1.1, the Concessionaire shall be entitled to access the Site prior to the Compliance Date;

3.2.3 to design, engineer, finance, procure, construct, install, commission, operate and maintain the Project Facilities, on Public Private Partnership ("PPP") mode with 100% Concessionaire investment, either itself or through such Person as may be selected by it;

3.2.4 Upon achieving COD of the Project, to manage, operate and maintain the same either itself or through such Person as may be selected by it, provided that the ultimate obligation and responsibility for the performance of this agreement shall continue to vest with the Concessionaire;

3.2.5 bear and pay all costs, expenses and charges in connection with or incidental to the performance of the obligations of the Concessionaire under this Agreement;

3.2.6 to transfer the Project Facilities to the Authority at the end of the Concession Period of 30 years (after COD) or on Termination, in accordance with the provisions of this Agreement;

3.2.7 to borrow or raise money or funding required for the due implementation of the Project and mortgage, charge or create lien or encumbrance on the whole or part of the Project Facilities except the Site and immovable property created for Plant, and Landfill Site;

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3.2.8 to process MSW at the Plant, produce energy from Waste to Energy plant and produce BioCNG from Waste to Gas Plant and dispose the process remnants and inert waste as per provisions of this Agreement, Solid Waste Management Rules, 2016 and Applicable Law;

3.2.9 To, in accordance with the Applicable Law, store, use appropriate, market, and sell or dispose all the components/ products of the MSW, including but not limited to recyclables, electricity, methane, RDF, compost, Bio Gas, Residual Inert Matter or any other product, and to further retain and appropriate any revenues generated from the sale of such products/ by- products, in accordance with this Agreement;

3.2.10 to obtain the utilities required for enabling the construction of the Project Facilities;

3.2.11 exclusively hold, possess, and control the Site, in accordance with the terms of the Concession Agreement for the purposes of the due implementation of this Project;

3.2.12 Neither assign, transfer or sublet or create any lien or Encumbrance on this Agreement, or the Concession hereby granted or on the whole or any part of the Project nor transfer, lease or part possession thereof; without permission of the Authority;

3.2.13 To modify, adapt, upgrade or change the technology, from time to time, based on actual operations of the Processing Project Facility, Good Industry Practices and the requirements of the Project except in respect of the building by-laws, subject to no disruption in services and obligations;

3.2.14 To appropriate, possess and control and to further, at its sole discretion, utilize, renovate, modify, replace or demolish, free of any cost or charges or any liability for payment of compensation in respect thereof, all the buildings and structures and infrastructure that may be existing with reference to MSW management in the Project Area as of the date of this Agreement;

3.2.15 To receive the fiscal incentives and benefits accruing in respect of or on account of the Project including Carbon Credits / Certified Emission Reduction (CER's) under Clean Development Mechanism (CDM), and accrue benefits as per Clause 5.1.7 (hh).; in a ratio of 50:50, wherein half the proceeds shall be shared with the Authority

3.2.16 To sell power generated from the power plant to any buyer in accordance with Applicable Law.

3.2.17 To utilize the existing infrastructure like dumper bins, vehicles, transfer stations, etc., if available on an 'as is where is' basis.

3.3. Concession Period

The Concession is granted to Concessionaire for a period of 30 years commencing from the

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date of COD of the facility, during which the Concessionaire is authorized to implement the Project on DBFOT model including management of all facilities and resources required for Integrated Management of Solid Waste in accordance with the provisions hereof.

Specifically, construction must be completed within 24 months from handover of the site or getting Environmental Clearance and Consent to Establish, whichever is later, at which time a Construction Completion Certificate is issued. A three-month trial period shall then follow, culminating in the Trial Operations Completion Certificate and declaration of the Commercial Operation Date (COD). From COD, the O&M period runs for 30 years. After the 30 year period, the rights and obligations of the Authority as well as the Concessionaire shall only be limited to sanitary landfill management, for which the post-closure activities shall continue for 15 additional years, as per the Applicable Rules.

Provided that in the event of Termination, the Concession Period shall mean and be limited to the period commencing from the Compliance Date and ending with the Termination Date.

3.4. Renewal / Extension of Concession Period

The Authority may in its sole discretion, in the event the Concessionaire does not commit any Event of Default during the last [5 (five) years] of the Concession Period, may agree to extend the Concession after the expiry of the Concession Period on same [or modified] terms and conditions for a term as mutually decided by the Parties by issuing a notice to the Concessionaire by no later than [6 (six)] months prior to the date of expiry of the Concession Period. Provided that any such extension shall also lead to an extension of license agreement(s) for an equal period so as to make the license agreement co-terminus with extended Concession Period. The same is subject to approval of the Authority.

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ARTICLE 4 : CONDITIONS PRECEDENT

4.1. Conditions Precedent

4.1.1 Save and except expressly provided in this Agreement or unless the context otherwise requires, the respective rights and obligations of the Parties under this Agreement shall be subject to the satisfaction in full of the obligations set out in this Clause 4.1 (the "**Conditions Precedent**"). Provided, however, that a Party may grant waiver from satisfaction of any Condition Precedent by the other Party in accordance with the provisions of Articles 4.1.2, 4.1.3, as the case may be, and to the extent of such waiver, that Condition Precedent shall be deemed to be fulfilled for the purposes of this Article 4.1.1.

4.1.2 Conditions Precedent for Authority

The Concessionaire may, upon providing the Performance Securities to the Authority in accordance with Article 9 and at any time after [15 (fifteen)] days from the Execution Date or on an earlier day acceptable to the Authority, by notice require the Authority to satisfy any or all of the Conditions Precedent set forth in this Article 4.1.2 within a period of [180 (one hundred and eighty)] days of receipt of the notice, or such longer period not exceeding [210 (two hundred and ten)] days as may be specified therein, and the Conditions Precedent required to be satisfied by the Authority shall be deemed to have been fulfilled when the Authority shall have:

a) Procured for the Concessionaire the Right of Way to the Site(s) in accordance with Article 10;

b) Provided land for setting up of Project Facilities vacant and free from Encumbrances and after requisite change in land-use; provided, however, the Authority may add the task of clearance of land for setting up of Project Facilities in the Scope of Work of this Agreement;

c) Executed and procured execution of Substitution Agreement;

d) Facilitated the Concessionaire in terms of obtaining all Applicable Permits from the Departments concerned/ Competent Authority, if requested by the Concessionaire, including permits in relation to environmental protection and conservation including but not limited to those specified in Schedule 2;

e) Undertake appointment of the Independent Engineer (IE);

f) execute the Substitution Agreement with the Concessionaire, Authority and the Lenders in the agreed form set out at Schedule 9; and

g) execute the Escrow Agreement with the Concessionaire, Authority, and the Escrow Bank in the agreed form set out at Schedule 17 and open the Escrow Account with the Escrow

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Bank; per Article 20;

h) Provide:

- Access Roads to the Site as per Good Industry Practices;
- drainage up to the boundaries of the Site as per Good Industry Practices, however any discharge by the Concessionaire into the drains must be as per the Applicable Laws and regulations;
- power connection to the site, except infrastructure required for power evacuation, which shall lie in the scope of the Concessionaire;
- For supply of water to the Proposed Site, the Authority shall support in identification of potential sources and Right of Way for the same, however, the Concessionaire will be responsible for any all costs related to the same including but not limited to laying of pipelines and restoration of the surface in relation to the same.

i) The Authority shall provide assistance to obtain the required EC (Environment Clearances) for relevant facilities if required;

Provided, that upon request in writing by the Authority, the Concessionaire may, in its discretion, waive the Conditions Precedent set forth in this Article 4.1.2.

4.1.3 Conditions Precedent for Concessionaire

The Conditions Precedent required to be satisfied by the Concessionaire within a period of [90 (ninety)] days from the Execution Date shall be deemed to have been fulfilled when the Concessionaire shall have:

- Provided to the Authority the copies (certified as true copies by an authorised officer of the Concessionaire) of the constitutional documents of the Concessionaire;
- Provided the Performance Securities to the Authority pursuant to Article 9;
- Prepared and submitted a detailed project report, covering technology proposed, demand assessment, technical feasibility, detailed cost estimates, capital investment plan, project financing details, revenue projections, environment & social impact assessment and detailed financial analysis, to the Authority, consistent with the technical plan submitted during the bidding stage within 3 (three) months from Compliance Date, and to get the DPR approved by the Authority within one month of submitting the DPR;
- Executed the Financing Agreements and delivered to the Authority [3 (three)] true copies thereof, duly attested by a director of the Concessionaire;
- Delivered to the Authority [3 (three)] true copies of the Financial Package and the

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Financial Model, duly attested by a director of the Concessionaire, along with copies of the Financial Model in an editable version either in MS Excel version or any substitute thereof, which is acceptable to the Senior Lenders;

- Achieved financial closure i.e. procured and raised all the funds (debt, equity, etc.) necessary to finance the Project as per the timelines mentioned in Clause 12.1.2, as evidenced by the funding documents becoming effective and the Concessionaire having immediate access to the funds there under;
- Provided notarised true copies of its board resolution authorizing the execution, delivery and performance of this Agreement by the Concessionaire;
- Executed and procured execution of the Escrow Agreement with the Authority, and the Escrow Bank in accordance with Article 19 and Schedule 17;
- Procured all Applicable Permits unconditionally or if subject to conditions, then all such conditions required to be fulfilled under such Applicable Permits, have been fulfilled as on date the Concessionaire claims satisfaction of all the Conditions Precedent under this Agreement;
- Delivered to the Authority {from the Consortium Members, their respective} confirmation, in original, of the correctness of their representations and warranties set forth in Article 7;
- Delivered to the Authority a legal opinion from the legal counsel of the Concessionaire with respect to the authority of the Concessionaire to enter into this Agreement and the enforceability of the provisions thereof;
- Provided proof of its shareholding pattern, evidenced by certificates from the authorised signatory of the Concessionaire.
- Executed and procured execution of Substitution Agreement with the Authority and the Lenders in the agreed form set out in Schedule 9;
- Taken over vacant and unencumbered possession of all the Site(s) from the Authority;
- Procured at its own cost, water connection, power connection and other service connections to the Site;

Provided that upon request in writing by the Concessionaire, the Authority may in its sole discretion, waive fully or partially any or all the Conditions Precedent set forth in this Article 4.1.

4.2. Satisfaction of Conditions Precedent

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4.2.1 Each Party shall make all reasonable endeavors at its respective cost and expense to procure the satisfaction in full of the Conditions Precedent relating to it within a period of [180 (One Hundred & Eighty)] days from the Execution Date (the "Compliance Period") unless specified otherwise;

4.2.2 The later of the date within such time when the Authority or the Concessionaire fulfills its Conditions Precedent (unless the Authority waives the same for the Concessionaire) shall be the date from which the relevant and respective obligations of the Parties hereunder shall commence (the "Compliance Date"), respectively

4.2.3 Each Party shall make all reasonable endeavors to satisfy the Conditions Precedent within the time stipulated and shall provide the other Party with such reasonable cooperation as may be required to assist that Party in satisfying the Conditions Precedent for which that Party is responsible.

4.2.4 The Parties shall notify each other in writing at least [once a month] on the progress made in satisfying the Conditions Precedent. Each Party shall promptly inform the other Party when any Condition Precedent for which it is responsible has been satisfied.

4.2.5 The Concessionaire shall, upon satisfaction or waiver, as the case may be, of all the Conditions Precedent, subject to confirmation by the Authority, notify the Authority of the occurrence of the Compliance Date.

4.3. Damages for delay by the Authority

In the event that: (i) the Authority does not procure fulfillment or waiver of the Condition Precedent set forth in Article 4.1.2, respectively, within the period specified in respect thereof; and (ii) the delay has not occurred as a result of breach of this Agreement by the Concessionaire or due to Force Majeure Event, the Authority shall pay Damages to the Concessionaire of an amount calculated at the rate of [0.1% (zero point one per cent)] of the Performance Security for each day's delay until the fulfillment of such Conditions Precedent, subject to a maximum amount equal to the bid security.

4.4. Damages for delay by Concessionaire:

In the event that: (i) the Concessionaire does not procure fulfillment or waiver of any or all of the Conditions Precedent set forth in Article 4.1.3 within the period specified in that Article; and (ii) the delay has not occurred as a result of breach of this Agreement by the Authority or due to Force Majeure Event, the Concessionaire shall pay Damages to the Authority of an amount calculated at the rate of [0.2% (zero point two per cent)] of the Performance Security for each day's delay until the fulfillment of the Conditions Precedent, up to the maximum amount equal to the bid security and upon reaching such maximum

amount, the Authority may, in its sole discretion and subject to the provisions of Article 24, terminate the Agreement. Provided that in the event of delay by the Authority in procuring fulfillment of the Conditions Precedent specified in Article 4.1.2, no Damages shall be due and payable by the Concessionaire under this Article 4.4 until the date on which the Authority shall have procured fulfillment of the Conditions Precedent specified in Article 4.1.2.

4.5. Commencement of the Concession Period

The date on which Financial Close is achieved and all the Conditions Precedent specified in Article 4.1, are satisfied or waived, as the case may be, shall be the Compliance Date which shall be the date of the commencement of the Concession Period. The Concession Period shall be of 30 years from COD, excluding 24 months for the construction of the facilities for Processing & Disposal of MSW.

For avoidance of doubt, the Parties agree that the Concessionaire may, upon occurrence of the Compliance Date hereunder, by notice convey the particulars thereof to the Authority, and shall thereupon be entitled to commence development of the Project in accordance with the terms of this Agreement.

4.6. Non-Compliance with Conditions Precedent

4.6.1 In the event the Conditions Precedent for Concessionaire have not been satisfied within the stipulated time and the Authority has not waived, fully or partially, such conditions relating to the Concessionaire, this Agreement shall cease to have any effect as of that date and shall be deemed to have been terminated by the mutual agreement of the Parties and no Party shall subsequently have any rights or obligations under this Agreement and the Authority shall not be liable in any manner whatsoever to the Concessionaire or Persons claiming through or under it;

4.6.2 In the event this Agreement fails to come into effect on account of non-fulfillment of the Concessionaire's Conditions Precedent, the Authority shall be entitled to forfeit and encash the Performance Security;

4.6.3 In the event the Conditions Precedent for the Authority have not been satisfied within the stipulated time, then the Concessionaire shall have the option to either: (i) mutually extend the time period for satisfaction of the Conditions Precedent for the Authority or (ii) terminate this Agreement. In the event of termination, the Authority shall pay to the Concessionaire, reasonable development costs, as determined basis Article 25. In case of extension of time period for fulfilment of Conditions Precedent for the Authority beyond a period of 180 (one hundred and eighty) days from the Compliance Date, the Concession

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Period shall be proportionately extended for the same period. Parties hereby agree that for determination of the said development cost, the Authority may appoint a financial consultant for determining such development cost, Article 25 shall be referred;

4.6.4 In the event this Agreement fails to come into effect on account of the non-fulfillment of the Authority Conditions Precedent, the Authority shall in addition to payment of Development Cost in terms of Article 4.6.3 above, shall return the Performance Securities to the Concessionaire; provided there are no outstanding claims of the Authority on the Concessionaire.

4.7. Termination upon Delay:

4.7.1 Without prejudice to the Damages for delay prescribed in Articles 4.3 and 4.4 above, the Parties expressly agree that in the event the Compliance Date does not occur, for any reason whatsoever, within a period of [180 (one hundred and eighty)] days from the Execution Date or the extended period provided in accordance with this Agreement, then all rights, privileges, claims and entitlements of the Concessionaire under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Concessionaire and the Agreement may be terminated by the non-defaulting Party. Provided, however, that in the event the delay in occurrence of the Compliance Date is for reasons attributable to the Concessionaire, the Performance Security or the bid security, as the case may be, of the Concessionaire shall be encashed and appropriated by the Authority as Damages thereof.

4.7.2 Instead of terminating this Agreement as provided in Article 4.7.1 above, the Parties may by mutual agreement extend the time for fulfilling the Conditions Precedent. In the event of such extension in time for fulfilling Conditions Precedent, the Concession Period shall also be extended proportionately.

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ARTICLE 5 : OBLIGATIONS OF THE CONCESSIONAIRE

5.1. General Obligations of the Concessionaire

5.1.1 Subject to and on the terms and conditions of this Agreement, the Concessionaire shall, at its own cost and expense, implement the Project, procure finance for and undertake the development, engineering, procurement, equipping, operation and maintenance of the Project and observe, fulfill, comply with and perform all its obligations set out in this Agreement or arising hereunder.

5.1.2 Perform and fulfill all of the Concessionaire's obligations with respect to the Project set out in Schedule 1 and under this Agreement;

5.1.3 The Concessionaire shall arrange for and procure, at its own cost and risk, all infrastructure facilities and utilities for the construction, development, operation and maintenance of the Project, including procuring connection for and supply of electricity, water, gas and other utilities as may be necessary or required for the operation of the Project. The Authority shall only provide support for utilities like access roads, drainage, power, water as per Clause 4.1.2. (h). The Concessionaire shall obtain all Applicable Permits and comply with the conditions there under for the procurement and use of such infrastructure facilities and utilities.

5.1.4 During the Concession Period, the Concessionaire shall obtain from the relevant Government Instrumentalities, the Applicable Permits (other than the Applicable Permits required to be obtained by the Authority under Article 4.1.2) and keep in force and comply with the conditions of all Applicable Permits for the development, Operation and Maintenance of the Project.

5.1.5 The Concessionaire shall comply with all Applicable Laws (including without limitation all public and labour related laws and health, safety, and sanitation laws, as then in force) and conditions of all Applicable Permits (including keeping them valid and in force as required) while performing its obligations under this Agreement. Further, the Concessionaire shall ensure and procure that its Contractors, if any, comply with all Applicable Permits and Applicable Laws during their performance of any of the Concessionaire's obligations under this Agreement.

5.1.6 The Concessionaire shall procure that its Sub-Contractors, if any, shall discharge its obligations in accordance with Good Industry Practice and as a reasonable and prudent person. For the purpose of this Agreement, the discharge of obligations by the Sub-Contractors shall be the obligation of the Concessionaire.

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5.1.7 The Concessionaire shall, at its own cost and expense, in addition to and not in derogation of its obligations elsewhere set out in this Agreement:

- procure, as required, the appropriate proprietary rights, licenses, agreements and permissions for materials, methods, processes and systems used or incorporated into the Project;
- perform and fulfill its obligations under the Financing Agreements;
- carry out comprehensive waste management facilities as stated in tender document by employing environment-friendly technologies which are not potentially detrimental or pose harm or risk to the Project Area and beyond;
- maintain harmony and good industrial relations among the personnel employed by it or its Contractors in connection with the performance of its obligations under this Agreement and shall be solely responsible for compliance with all labour laws and be solely liable for all possible claims and employment related liabilities of its staff employed in relation with the Project and hereby agrees to keep Authority indemnified against any claims, damages, expenses or losses in this regard and in no case and for no purpose shall the Independent Engineer/ Authority be treated as the employers of the Concessionaire, in this regard;
- not do or omit to do any act, deed or thing which may in any manner violates any provision of this Agreement;
- always act in a manner consistent with the provisions of this Agreement and not cause or fail to do any act, deed or thing, whether intentionally or otherwise, which may in any manner violate any of the provisions of this Agreement or Applicable Laws and Applicable Permits;
- procure that all equipment and facilities comprising the Project are developed, operated and maintained in accordance with the Specifications and Standards, Maintenance Requirements, Safety Requirements as specified in Schedules 3,4 and 5 and Good Industry Practice;
- support, cooperate with and facilitate Authority in the implementation and operation of the Project in accordance with the provisions of this Agreement;
- to comply with the time lines for setting up the Project Facilities;
- endeavour to improve the ancillary conditions and infrastructure related to the Project including assistance to informal recycling workers, procure and maintain in full force and effect, as necessary, appropriate proprietary rights, licenses, agreements and permissions for materials, methods, processes and systems used in

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or incorporated into the Project;

- right to enter into sub-contracts for the purposes of and subject to the terms of this Agreement;
- for comprehensive waste management facilities as stated in tender document, develop, construct and operate the Processing Facilities and Sanitary Landfill Site at the allocated site in conformity with the terms of this Agreement for processing of municipal waste and disposal of residual inert matter and rejected waste;
- be responsible for all the health, security, environment and safety aspects of the Project at all times during the Concession Period;
- ensure that the Project remains free from all encroachments and take all steps necessary to remove encroachments, if any;
- upon receipt of a request thereof, afford access to the Project to the authorised representatives of the Independent Engineer/ Authority for the purpose of ascertaining compliance with the terms, covenants and conditions of this Agreement;
- bear all expenses towards uniforms, safety gear and waste handling equipment to all the waste lifters and drivers;
- ensure that the project is operational on all calendar days of the year;
- be responsible for the conduct of its staff employed for this project while on duty;
- shall obtain approval from transport department as applicable and obtain fitness certificate for the vehicles each year before the due date and shall bear any cost or expense associated with this;
- to operate, maintain, repair and renovate the project assets and project facilities, in accordance with, inter alia, the Applicable Laws, Applicable Permits and the requirements;
- submit the Operational Plan to the Authority at least 1 (one) month before proposed Commencement Date and get the same approved;
- commence Secondary Collection and Transportation of the Solid Waste from the Designated Transfer Stations within the Project Area at least [90 (ninety)] days prior to COD, or within 90 (ninety) days from the date of handover of the Transfer Station in the
- intimate to the Independent Engineer, the Authority, the date of commencement of the Secondary Collection and Transportation (the “Commencement Date”) at least

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2 (two) weeks in advance;

- procure, acquire and put into place at its own cost and expenses all the Project Assets and Project Facilities required by the Concessionaire to implement the Project during the Pre- COD Period so as to achieve COD within the time stipulated in this Agreement;
- promptly rectify and remedy any defects or deficiencies, at its own cost, if any pointed out by the Independent Engineer in the Inspection Report and furnish a report within the stipulated time period in respect thereof to the Independent Engineer;
- comply with all the performance parameters as specified in KPIs, set forth in Article 19;
- to carry out all necessary test(s) and get the approvals as per Applicable Law and in conformity with Good Industry Practices, prior to achieving COD;
- pay all taxes, duties and outgoings, including utility charges relating to the project;
- handover/transfer the Sites and immovable Project Facilities to tue Authority upon Termination of this Agreement, in accordance with the provisions thereof;
- provide live GPS feed of movement of transportation vehicles, camera feeds at weighbridge of Site to the Independent Engineer, as and when sought by the Independent Engineer;
- be responsible and indemnify the Authority for any accident due to negligence or otherwise in the performance of the project; and
- submit compliance as required to environmental agency and shall provide all information related to project as would be required by the Independent Engineer/ Authority pursuant to any RTI query or any issue raised in State Assembly/ Parliament;
- The Concessionaire shall at its cost; expenses and risk make such financing arrangements as would be necessary to implement the project and to meet all its obligations under this Agreement, in a timely manner;
- The Concessionaire shall, at its own costs endeavor to obtain the carbon credits for the project by adopting the greenhouse gas mitigation measures conforming with the specifications suggested and shall also carry out all such activities including preparation of design report under Clean Development Mechanism. The Concessionaire shall share benefit of such carbon credits as per GOI green initiative orders., accruing to the project during the Concession. Concessionaire will be given

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50% percent of the revenues from carbon credits and 50% of the revenues shall be retained by the Authority.

5.2. Obligations relating to Project Agreements

5.2.1 It is expressly agreed that the Concessionaire shall, at all times, be responsible and liable for all its obligations under this Agreement. Notwithstanding anything contained in the Project Agreements or any other agreement, and no default under any Project Agreement or any other agreement shall excuse the Concessionaire from its obligations or liability hereunder.

5.2.2 Before finalization, the Concessionaire shall submit to the Authority the drafts of all Project Agreements and the operation & maintenance contract (if any) or any amendments or replacements thereto for its review and comments, and the Authority shall have the right but not the obligation to undertake such review and provide its comments and observations, if any, to the Concessionaire. Concessionaire shall appropriately make amendments as per review/comments/observations and re-submit the same to the Authority for its review. Within [7 (seven)] days of execution of any Project Agreement or amendment thereto, the Concessionaire shall submit to the Authority a true copy thereof, duly attested by a Director of the Concessionaire, for its record. For avoidance of doubt, it is agreed that the review and comments/ observations by Authority on any Project Agreement or failure or omission of Authority to review and/ or comment hereunder shall not be construed or deemed as acceptance of any such agreement or document by BBMP/ Authority. No observation and/or review of Authority and/or its failure to review and/or convey its observations on any document shall relieve the Concessionaire of its obligations and/or liabilities under this Agreement in any manner whatsoever nor shall the Authority be liable for the same in any manner whatsoever.

5.2.3 The Concessionaire shall not make any addition, replacement or amendments to any of the Financing Agreements without the prior written consent of the Authority if such addition, replacement or amendment has, or may have, the effect of imposing or increasing any financial liability or obligation on Authority, and in the event that any replacement or amendment is made without such consent, the Concessionaire shall not enforce such replacement or amendment nor permit enforcement thereof against Authority. For avoidance of doubt, the Authority acknowledges and agrees that it shall not unreasonably withhold its consent for restructuring or rescheduling of the debt of the Concessionaire.

5.2.4 Notwithstanding anything to the contrary contained in this Agreement, the Concessionaire shall not sub-lease, sub-license, assign or in any manner create an Encumbrance on any of the Project Assets as the case may be, without prior written approval of Authority, which

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approval the Authority may, in its discretion, deny if such sub-lease, sub- license, assignment or Encumbrance has or may have a Material Adverse Effect on the rights and obligations of Authority under this Agreement or Applicable Laws.

5.2.5 The Concessionaire shall procure that each of the Project Agreements contains provisions that entitle Authority to step into such agreement, in its sole discretion, in substitution of the Concessionaire in the event of Termination or Suspension (the "Covenant"). For the avoidance of doubt, it is expressly agreed that in the event the Authority does not exercise such rights of substitution within a period not exceeding [90 (ninety)] days from the Termination Date, the Project Agreements shall be deemed to cease to be in force and effect on the Termination Date without any liability whatsoever on the Authority and the Covenant shall expressly provide for such eventuality. The Concessionaire expressly agrees to include the Covenant in all its Project Agreements and undertakes that it shall, in respect of each of the Project Agreements, procure and deliver to the Authority an acknowledgment and undertaking, in a form acceptable to Authority , from the counter party(ies) of each of the Project Agreements, where such counter party(ies) shall acknowledge and accept the Covenant and undertake to be bound by the same and not to seek any relief or remedy whatsoever from the Authority in the event of Termination or Suspension.

5.3. No Breach of Obligations

The Concessionaire shall not be considered to be in breach of its obligations under this Agreement nor shall it incur or suffer any liability if and to the extent performance of any of its obligations under this Agreement is affected by or on account of any of the following:

- Force Majeure Event, subject to Article 21;
- Authority Event of Default;
- Compliance with the instructions of the Independent Engineer/ Authority or the directions of any Government Agency other than instructions issued as a consequence of a breach by the Concessionaire of any of its obligations hereunder;

5.4. Concessionaire's Representative

To fulfill the Concessionaire's obligations and for implementation of the Project in accordance with this Agreement, the Concessionaire shall deploy representative(s) (the "**Concessionaire Representative**") on its behalf including a team leader (the "**Team Leader**"). The Team Leader shall have full authority to act on behalf of the Concessionaire for all matters relating to this Agreement and shall be an overall in charge to ensure implementation of the project in accordance with the provisions hereof. The Team Leader shall closely co-ordinate with the Independent Engineer/Authority and shall be responsible

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to ensure redressal on an immediate basis, any objections, observations, shortcomings, defects or defaults pointed out by the Independent Engineer during routine inspections and project review meetings and submit action take report to the Independent Engineer/Authority within a period not later than 7 (seven) days from the date of conveying of such defect/shortcoming. The Team Leader or its nominee shall make themselves available for meetings as and when called upon by the Independent Engineer, the Authority.

5.5. Sole purpose of the Concessionaire

The Concessionaire having been set up for the sole purpose of exercising the rights and observing and performing its obligations and liabilities under this Agreement, the Concessionaire or any of its subsidiaries shall not, except with the previous written consent of the Independent Engineer/ Authority, be or become directly or indirectly engaged, concerned or interested in any business other than as envisaged herein.

5.6. Engagement of trained personnel

The Concessionaire shall ensure that the personnel engaged by it in the performance of its obligations under this Agreement are at all times properly skilled and trained for their respective functions.

5.7. Equity Lock-in requirements

The Concessionaire acknowledges that:

5.7.1 The Selected Bidder shall hold [100% (one hundred per cent)] shareholding in the paid-up Equity capital of the Concessionaire until expiration of [1 (one)] year from COD, [51% (fifty one per cent)] shareholding in the paid-up Equity capital until expiration of [10 (ten)] years from COD and thereafter [26% (twenty six per cent)] shareholding in the paid up equity capital during the remaining Concession Period.

Provided that in case the Selected Bidder is a Consortium of entities, then the lead member (the "Lead Member") of such Consortium and the member whose credentials were considered for prequalification for bid, shall have the majority equity share holding of the paid-up Equity capital of the Concessionaire and that all the members of the Consortium together shall hold [100% (one hundred per cent)] Equity capital of the Concessionaire, until expiry of [1 (one)]year from COD, [51% (fifty one percent)]shareholding in the paid-up Equity capital until expiration of [10 (ten)]years from COD and thereafter [26% (twenty six per cent)] shareholding in the paid-up Equity capital during the remaining Concession period. Provided further that a member of the Consortium meeting either the Technical Capacity or the Financial Capacity shall subscribe at least 10% (ten per cent) of the paid-up and subscribed Equity of the SPV until the 2nd (second) anniversary of the COD for

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member meeting the Technical Capacity and until the 1st (first) anniversary of the COD for the member meeting the Financial Capacity.

5.7.2 Any violation in the shareholding pattern in the equity lock-in requirements would be treated as Concessionaire Event of Default.

5.7.3 **Exit from Consortium**

5.7.3.1 Any Consortium member other than the Lead Member shall be allowed to exit the Consortium anytime during the Concession Period post-COD and the Lead Member will be allowed to replace/absorb the shares and responsibilities of other Consortium members, subject to approval from the Authority which will not be unreasonably with held.

5.8. Obligations relating to management of the Concessionaire

5.8.1 The Concessionaire shall not, without the prior written approval of the Authority, undertake or cause to be undertaken, any action for all or any of the following or any matter incidental or consequential thereto:

- to alter or add to the provisions of the memorandum of association;
- to alter or add to the articles of association; to change the name of the Concessionaire;
- to reduce the share capital;
- to commence any new lines of business;
- to enter into any contract or agreement with a related party with respect to such related party's appointed to any office or place of profit in the company, its subsidiary company or associate company;
- to make inter-corporate-loans and investments or guarantee or security (except where such security or payment is to be made to Authority) to be given, if the aggregate amount thereof, exceeds the limit of [30% (thirty per cent)] of the Concessionaire's paid- up share capital;
- to apply for corporate insolvency proceedings under the Insolvency and Bankruptcy Code, 2016;
- for various other matters pertaining to the winding up of the Concessionaire; and
- any other matter which is required by the Companies Act to be passed by a special resolution of the shareholders of the Concessionaire.

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For the purposes of this clause, a "related party" shall have the meaning ascribed to it under the Companies Act, 2013.

5.9. EHS Standards and L&FS Standards

5.9.1 The Concessionaire shall at all times and throughout the Concession Period comply with Applicable Laws including the relevant Environmental, Health and Safety (the "EHS") Rules and Regulations and life and fire safety Standards (the "L&FS Standards").

5.9.2 The Concessionaire shall prepare and comply with the performance standards, including an environmental and sustainability plan stating how the Concessionaire intends to manage and mitigate risks in relation to EHS. Such performance standards shall take into consideration the principles set out in:

- National EHS regulations;
- Real Estate (Regulation and Development) Act, 2016;
- National Building Code of India published by BIS and other statutory BIS standards applicable to projects of similar nature; and
- L&FS Standards, Department of Factories Boilers Industrial Safety & Health

5.10. Obligations relating to Taxes

The Concessionaire shall pay, at all times during the subsistence of this Agreement, all Taxes, levies, duties, cesses and all other statutory charges payable in respect of the Project.

5.11. Obligations relating to information

5.11.1 Without prejudice to the provisions of Applicable Laws, Applicable Permits and this Agreement, upon receiving a notice from the Authority for any information that it may reasonably require or that it considers may be necessary to enable it to perform any of its functions, the Concessionaire shall provide such information to the Authority forthwith and in the manner and form required by the Authority.

5.11.2 After receiving a notice from the Authority for reasoned comments on the accuracy and text of any information relating to the Concessionaire's activities under or pursuant to this Agreement which the Authority proposes to publish, the Concessionaire shall provide such comments to the Authority in the manner and form required by Authority.

5.12. Obligations relating to other charges

The Concessionaire shall make timely payments for all utility services in respect of the

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Sites, including water, sewage, electricity, telecommunication, internet and cable charges, etc. on its own account.

5.13. Project Implementation: Operation and Maintenance

- The Concessionaire shall operate and maintain the Project Facilities in accordance with the this Agreement.
- The Concessionaire may undertake operations and maintenance of the Project Facilities by itself or through a Contractor possessing requisite technical, financial, and managerial expertise/ capability; but in either case, the Concessionaire shall remain solely responsible to meet the O&M Requirements.
- The Concessionaire shall, for Operations and Maintenance;
  - Have requisite organization and designate and appoint suitable officers/ representatives as it may deem appropriate to supervise the Project, to deal with the Independent Engineer/Authority and to be responsible for all necessary exchange of information required pursuant to this Agreement;
  - Construct, provide and maintain a reasonably furnished site office for the Independent Engineer, at the Project Site;
- For the purposes of determining that the Construction Works and Project Facilities are being maintained in accordance with the Construction Requirements and O&M Requirements, the Concessionaire shall with due diligence carry out all necessary and periodical Tests in accordance with the instructions and under the supervision of the Independent Engineer. The Concessionaire shall maintain proper record of such Tests and the remedial measures taken to cure the defects or deficiencies, if any, indicated by the Test results.
- Conduct all Tests to ascertain compliance with Construction Requirements and Measurements.
- In the event the Concessionaire has failed to operate and maintain the Project in accordance with the O&M Requirements, and such failure has not been remedied despite a notice to that effect issued by the Independent Engineer or Authority ("Notice to Remedy"), Authority may, without prejudice to any of its other rights/remedies under this Agreement, be entitled to operate and maintain the Project or cause to repair and maintain the Project Facilities, under the supervision of Independent Engineer, at the risk and cost of the Concessionaire. The Concessionaire shall reimburse all costs incurred by the Authority on account of such operation and maintenance or repair and maintenance, and as certified by

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Independent Engineer, within 7 days of receipt of Authority's claim therefore.

- The Concessionaire shall be deemed to be in material breach of O&M Requirements if the Independent Engineer acting reasonably and in accordance with the provisions of this Agreement, has determined that due to breach of its obligations by the Concessionaire:
- There has been failure/undue delay in carrying out scheduled/planned maintenance or the scheduled/planned maintenance has not been carried out in accordance with the O&M Requirements;
- The maintenance of the Project Facilities or any part thereof has deteriorated to a level which is below the acceptance level prescribed by the O&M Requirements;
  - There has been a serious or persistent let up in adhering to the O&M Requirements and thereby the Project Facilities or any part thereof is not safe for operations;
  - There has been a persistent breach of O&M Requirements. For avoidance of doubt, persistent breach shall mean:
- Any breach of O&M Requirements by the Concessionaire which has not been remedied by the Concessionaire despite a Notice to Remedy in respect thereof issued by the Independent Engineer / Authority;
- Recurrence of a breach by the Concessionaire, during the pendency of Notice to Remedy by the Independent Engineer/Authority; requiring the Concessionaire to remedy a breach, and
- Repeated occurrence of a breach notwithstanding those earlier breaches have been remedied pursuant to Notice to Remedy or otherwise.

5.14. Additional Obligations of Concessionaires

- Maintenance of Records & Operations Plan

The Concessionaire shall maintain records of the quantum (measured in tons) of waste reaching the transfer stations, Integrated Processing & Disposal Facility, or any other facilities under this agreement with the Authority. The record shall comprise waste processed, rejects disposed to the landfill facility, daily counter checked by the Independent Engineer or his representative and provide monthly, quarterly, and annual reports of the same to the Independent Engineer and Authority along with any other sought by Independent Engineer/Authority.

The Concessionaire shall, within 30 days of the appointment ("Effective Date") also submit an Operations Plan to the Independent Engineer or to Authority, in conformity with the

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guidelines indicated in **Schedule 22.**

Within 15 days of receipt of Operations Plan from Concessionaire, the Independent Engineer shall review the Operations Plan also keeping in view the comments of Authority, if any. The Independent Engineer should provide its observations/comments on the Operations Plan to Concessionaire within such specified period of 15 days, Concessionaire shall after discussions, finalize the Operations Plan after taking due considerations of comments/observations from the Independent Engineer.

If Independent Engineer does not provide its comments within 15 days, Concessionaire shall be entitled to go ahead with the proposed Operations Plan. Notwithstanding any review or failure to review the operations plan by the Independent Engineer or Authority, Concessionaire shall be solely responsible for the adequacy of the Operations Plan and the conformity thereof with the guidelines for O&M Requirements, and the Concessionaire shall not be relieved or absolved in any manner whatsoever of any of its obligations hereunder.

- Disposal of Hazardous Waste

The Authority and Concessionaire hereby agree that at times, some hazardous or Bio Medical waste may get mixed with MSW and as Concessionaires is unauthorized to process/dispose of hazardous waste or biomedical waste in the project, such hazardous waste shall be separated out from MSW and shall be handed over to Authority for appropriate collection, safe handling, transportation, and disposal as per the relevant rules with authority cost and risk. The Concessionaire shall inform Authority of having found any such hazardous waste and it shall be Authority's responsibility to collect and transport such hazardous waste from the site, within 24 hours of such information by Concessionaire.

- Development of Site

Concessionaire shall, after obtaining the vacant possessions of the Site in accordance with the provisions of the Article 10 above and subject to the other provisions of this Agreement, commence development and improvement on the Site as required to implement the Project and to construct the Project Facilities in accordance with the provisions of this Agreement, including construction of internal roads at the site, fencing, greenery, etc. Concessionaire may use, free of any charge, any debris that may be available at the Site for constructing internal roads, as also the building/structures and infrastructure existing on the site.

- Compliance to Environmental Laws

Concessionaire undertakes to establish a fully equipped laboratory to monitor the quality of Water, Air, Soil, and impact of the Project.

- Detail Project Report Cum Implementation Plan

Concessionaire shall ensure that it undertakes the Construction and Commissioning of the

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plant in accordance with the implementation plan that shall be submitted to the Authority by Concessionaire within 90 (Ninety) days of the signing of Concession Agreement.

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ARTICLE 6 : OBLIGATIONS OF AUTHORITY

6.1. General Obligations of the Authority

6.1.1 The Authority shall, at its own cost and expense, undertake, comply with and perform all its obligations set out in this Agreement.

6.1.2 Subject to and in accordance with the provisions of this Agreement and Applicable Laws, the Authority agrees to provide support to the Concessionaire and undertakes to observe, comply with and perform the following:

- identify and earmark / allocate parcel(s) of land, by itself, within or outside the Project Area for the purpose of setting up of Project Facilities for scientific management of Solid Waste;
- undertake Secondary Transportation till the handover of Transfer Stations to the Concessionaire; undertake Processing and Disposal of Solid Waste until the COD;
- upon written request from the Concessionaire, and subject to the Concessionaire complying with Applicable Laws, provide reasonable support and assistance to the Concessionaire in procuring Applicable Permits required from any Government Instrumentality for implementation and operation of the Project, subject to the Concessionaire submitting its applications complete in all respect in a timely manner. The Authority agrees and undertakes that it shall not unreasonably delay or withhold provision of any such reasonable support or assistance to the Concessionaire;
- upon written request from the Concessionaire, provide reasonable assistance to the Concessionaire in obtaining access to all necessary infrastructure facilities and utilities, including water and electricity at rates and on terms no less favourable to the Concessionaire than those generally available to commercial customers receiving substantially equivalent services;
- provide the Sites on leave and license basis free from Encumbrance to the Concessionaire and ensure that no barriers are erected or placed on or about the Sites by any Government Instrumentality or persons claiming through or under any Government Instrumentality, except for reasons of Safety Requirements, Emergency, national security, or law and order;
- not do or omit to do any act, deed or thing which may in any manner violate the provisions of this Agreement;
- support, cooperate with and facilitate the Concessionaire in the implementation and

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operation of the Project in accordance with the provisions of this Agreement;

- upon written request from the Concessionaire, execute the Substitution Agreement;
- engage an independent monitoring and appraisal entity (Independent Engineer) who shall monitor, supervise, and review Concessionaire's progress details/activities. The Concessionaire shall submit monthly reports to the Independent Engineer regarding progress of the Project. The Independent Engineer shall validate the data provided by the Concessionaire in monthly progress reports;
- undertake on its own or through the Independent Engineer, the development and management of ICT (Information Communication and Technology) and IoT (Internet of Things) based infrastructure (including sensors and video analytics) for monitoring the project, including but not limited to, GPS tracking of vehicles, Sensor based weight measurement in transportation vehicles, electronic weigh bridges at Site, surveillance cameras at Sites, etc., and a central command center;
- make timely payments as prescribed in Article 18;
- observe and comply with all obligations set forth in this Agreement, and any other Agreement to be executed with the Concessionaire;
- handover to the Concessionaire within [24 (twenty four) months] of the Execution Date, the existing infrastructure of Secondary Transfer Stations on an as is where is basis, if any;
- facilitate in a timely manner all such approvals, permissions and authorisations which Concessionaire may require or is obliged to seek from them under this Agreement, in connection with implementation of the Project and the performance of its obligations. Provided where authorization for availing permits for utilities such as power, water, sewerage, telecommunications or any other incidental services/utilities is required, the same shall be provided by the Authority within [30 (thirty)] days from receipt of such request from the Concessionaire, subject to the conditions of the applications / details submitted being complete and correct.
- approve the Operational Plan within [a week] of its submission by the Concessionaire;
- maintain the Minimum Escrow Balance;
- Provide Minimum Waste Guarantee to the Concessionaire; this shall be equal to 50% of the Planned P&D Capacity for the first 5 years, and equal to 75% of the Planned P&D Capacity thereafter. This shall include the waste from Bulk Waste Generators, if any, accepted for processing by the Concessionaire.

- The Authority shall publish the gazette notification for the bulk waste generators specifying about the empanelment of the Concessionaire as an Authorized Waste Processor for bulk waste, after COD is achieved.

6.2. Obligations relating to refinancing – NOT APPLICABLE

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ARTICLE 7 : REPRESENTATIONS, WARRANTIES AND UNDERTAKINGS

7.1. Representations and Warranties of the Parties

Each Party represents and warrants to the others that:

- It is duly organized, validly existing and in good standing under the laws of India;
- It has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- It has taken all necessary corporate and other action under Applicable Laws and its constitutional documents to authorize the execution, delivery, and performance of this Agreement;
- It has the financial standing and capacity to undertake the Project;
- This Agreement constitutes its legal, valid, and binding obligation fully enforceable against it in accordance with the terms hereof;
- It is subject to civil and commercial laws of India with respect to this Agreement and it hereby expressly and irrevocably waives any immunity in any jurisdiction in respect thereof; and
- It shall have an obligation to disclose to the other Party as and when any of its representations and warranties cease to be true and valid.

7.2. Representations and Warranties of Concessionaire

The Concessionaire represents and warrants to Authority that:

- It is duly organized, validity existing and in good standing under the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising thereunder including any obligation, liability or responsibility hereunder;
- It has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated hereby;
- It has taken all necessary corporate and other action under Applicable laws and its constitutional documents to authorize the execution, delivery, perform its obligations under this Agreement;
- It has the financial standing and capacity to undertake the Project accordance with

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the terms of this Agreement;

- This Agreement constitutes its legal, valid and binding obligation enforceable against it in accordance with the terms hereof; and its obligations under this Agreement shall be legally valid, binding and enforceable obligations against it in accordance with the terms hereof;
- all undertakings and obligations of the Concessionaire arising from the {RFP/RFQ} or otherwise shall be binding on the Concessionaire as if they form part of this Agreement;
- it is subject to the laws of India, and hereby expressly and irrevocably waives any immunity in any jurisdiction in respect of this Agreement or matters arising thereunder including any obligation, liability or responsibility hereunder;
- the information furnished in the Bid and as updated on or before the Execution Date is true and accurate in all respects as on the Execution Date;
- The execution, delivery and performance of this Agreement will not conflict with, result in the breach of, constitute a default under or accelerate performance required by any of the terms of Concessionaire's 'Memorandum and Articles of Association' or any of the Applicable laws or any covenant, agreement, understanding, decree or order to which it is a party or by which it or any of its properties or assets are bound or affected;
- There are no actions, suits, proceedings or investigations pending, or to Concessionaire's knowledge, threatened against it at law or in equity before any court or before any other judicial, quasi-judicial or other authority, the outcome of which may result in the breach of this Agreement or which individually or in the aggregate may result in any material impairment of its ability to perform any of its obligations under this Agreement;
- it has no knowledge of any violation or default with respect to any order, writ, injunction or decree of any court or any legally binding order of any Government Instrumentality which may result in any Material Adverse Effect on its ability to perform its obligations under this Agreement and no fact or circumstance exists which may give rise to such proceedings that would adversely affect the performance of its obligations under this Agreement;
- It has complied with all Applicable Laws and has not been subject to any fines, penalties, injunctive relief or any other civil or criminal liabilities which in the aggregate have or may have Material Adverse Effect n its ability to perform its obligations under this Agreement;

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- the SPV is duly organized and validly existing under the laws of the jurisdiction of its incorporation, and has requested the Authority to enter into this Agreement pursuant to the LOA, and has agreed to and unconditionally accepted the terms and conditions set forth in this Agreement;
- all its rights and interests in the Project shall pass to and vest in the Authority on the Termination Date free and clear of all liens, claims and Encumbrances without any further act or deed on its part or that of the Authority, and that none of the Project Assets shall be acquired by it Subject to any agreement under which a security interest or other lien or Encumbrance is retained by any person, save and except as expressly provided in this Agreement;
- no representation or warranty given by it contained herein or in any other document furnished by it to the Authority, including the Bid or to any Government Instrumentality in relation to Applicable Permits contains or shall contain any untrue or misleading statement of material fact or omits or shall omit to state a material fact necessary to make such representation or warranty not misleading;
- no sums, in cash or kind, have been paid or shall be paid, by it or on its behalf, to any person by way of fees, commission or otherwise for securing the Concession or entering into this Agreement or for influencing or attempting to influence any officer or employee of the Authority in connection therewith
- all information provided by the Concessionaire in response to the {Request for Proposals/Qualification} or otherwise, is to the best of its knowledge and belief, true and accurate in all material respects;
- agree that the execution, delivery and performance by it of this Agreement and all other agreements, contracts, documents and writings relating to this Agreement constitute private and commercial acts and not public or government acts;
- consents generally in respect of the enforcement of any judgment against it in any proceedings in any jurisdiction to the giving of any relief or the issue of any process in connection with such proceedings; and
- the Concessionaire shall not venture into or continue any business which is in direct or indirect competition with the Project. In the event the Concessionaire engages in such activities, the same shall constitute a fundamental breach of this Agreement by the Concessionaire;
- all undertakings and obligations of the Concessionaire arising from the {Request for Proposals/Qualification} or otherwise shall be binding on the Concessionaire as if they form part of this Agreement

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- further representations as may be added depending on the specific circumstances of the Concessionaire.
- Concessionaire agrees to indemnify, and hold indemnified the Authority against all cost, expenses, penalties arising out of:
  - Operations of the project facilities under this Agreement.
  - Compliance with all labor laws and all possible claims and employment related liabilities of its staff employed in relation with the project.

7.3. Representations and warranties of Authority

The Authority represents and warrants to Concessionaire that:

- it has full power and authority to execute, deliver and perform its obligations under this Agreement and to carry out the transactions contemplated herein and that it has taken all actions necessary to execute this Agreement, exercise the rights and perform the obligations specified under this Agreement on behalf of the Authority.
- it has taken all necessary actions under the Applicable Laws to authorize the execution, delivery and performance of this Agreement.
- it has the financial standing and capacity to perform its obligations under this Agreement.
- this Agreement constitutes a legal, valid and binding obligation enforceable against it in accordance with the terms hereof.
- it has no knowledge of any violation or default with respect to any order, writ, injunction or any decree of any court or any legally binding order of any Government Instrumentality which may result in any material adverse effect on the Authority's ability to perform its obligations under this Agreement;

7.4. Representations and Warranties of the State Government

[Deleted]

7.5. Disclosure

- In the event that any occurrence or circumstance comes to the attention of either Party that renders any of its aforesaid representations or warranties untrue or incorrect, such Party shall immediately notify the other Party of it. Such notification shall not have the effect of remedying any breach of the representation or warranty that has been found to be untrue or incorrect nor shall it adversely affect or waive

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any right, remedy, or obligation of a Party under this Agreement.

- Neither the Authority nor any of its agents or employees shall be liable to the Concessionaire in contract, tort, including negligence or breach of statutory duty, statute or otherwise as a result of:
  - any inaccuracy, omission, unfitness for any purpose of inadequacy of any kind whatsoever in the data disclosed by the Authority to the Concessionaire in relation to the Project; and/or
  - any failure to make available to the Concessionaire any materials, documents, drawings, plans, or other information relating to the Project.

For reference purpose only

ARTICLE 8 : DISCLAIMER

8.1. The Concessionaire acknowledges that prior to the execution of this Agreement, the Concessionaire has, after a complete and careful examination, made an independent evaluation of the Request for Proposals, Scope of the Project, Specifications and Standards, Site, existing structures, local conditions, physical qualities of ground, subsoil and geology, and all information provided by the Authority or obtained procured or gathered otherwise, and has determined to its satisfaction the accuracy or otherwise thereof and the nature and extent of difficulties, risks and hazards as are likely to arise or may be faced by it in the course of performance of its obligations hereunder. Authority makes no representation whatsoever, express, implicit, or otherwise, regarding the accuracy, adequacy, correctness, reliability or completeness of any assessment, assumption, statement or information provided by it and the Concessionaire confirms that it shall have no claim whatsoever against the Authority in this regard.

8.2. The Concessionaire acknowledges and hereby accepts the risk of inadequacy, mistake, or error in or relating to any of the matters set forth in Article 8.1 above and hereby acknowledges and agrees that the Authority shall not be liable for the same in any manner whatsoever to the Concessionaire, Associates or any person claiming through or under any of them.

8.3. The Parties agree that any mistake or error in or relating to any of the matters set forth in Article 8.1 above shall not vitiate this Agreement or render it voidable.

8.4. In the event that either Party becomes aware of any mistake or error relating to any of the matters set forth in Article 8.1 above, that Party shall immediately notify the other Party, specifying the mistake or error; provided, however, that a failure on part of the Authority to give any notice pursuant to this Article 8.4 shall not prejudice the disclaimer of the Authority contained in Article 8.1 and shall not in any manner shift to the Authority any risks assumed by the Concessionaire pursuant to this Agreement.

8.5. The Concessionaire accepts that it is solely responsible for the verification of any design, data, documents, or information provided by the Authority, any Authority related parties or their consultants and advisors to the Concessionaire and that it shall accept and act thereon at its own cost and risk.

8.6. The Concessionaire shall be solely responsible for the contents, adequacy and correctness of the design, data, drawings, and detailed engineering prepared or procured by the Concessionaire for implementing the Project.

For reference purpose only

ARTICLE 9 : PERFORMANCE SECURITIES

9.1. Performance Security

9.1.1 The Concessionaire shall for the due and punctual performance of its obligations hereunder relating to the Project simultaneously with the execution of this Agreement, furnish an unconditional and irrevocable bank guarantee, in favor of the Authority, in the form as set out in Schedule 21, (the "Performance Security") for a sum of corresponding to [5% (five per cent)] of the Total Project Cost (based on the capital costs mentioned in the RFP document) during construction & mobilization period till Commercial Operation Date of the Project. Post-COD, the Performance Security shall be reduced to 25% (twenty-five per cent) till the end of Concession Period or till the Termination Date, as the case may be. For the purpose of the submission of Performance Security, Surety Bonds shall also be accepted by the Authority.

9.1.2 The amount equivalent to 75% of the Performance Security or the amount retained by the Authority as cash security shall be returned after the expiry of 30 (thirty) days from the COD, unless this Agreement is terminated earlier, in which case the Performance Security will be returned within 30 (thirty) days from the date of termination, subject to the Authority's right to receive any amounts from the Concessionaire under this Agreement. The remaining 25% shall be released within 30 (thirty) days from the expiry of the contract, or from the date of termination, as the case may be.

9.1.3 The Performance Security shall secure the due performance of all the Concessionaire's obligations throughout the Concession Period, especially the Construction Period.

9.2. ESHS Performance Security

9.2.1 The Concessionaire shall have submitted to the Authority, prior to the Execution Date an unconditional and irrevocable bank guarantee for an amount corresponding to [1% (one percent)] of the Project Cost (the "ESHS Performance Security").

9.2.2 The ESHS Performance Security shall be valid until the Termination of the Agreement. The ESHS Performance Security shall have an initial validity period till COD, which must thereafter be renewed on a year-on-year basis, before the expiry of the 11th (eleventh) month of the relevant year, until the expiry of the O&M period. If any of the ESHS Performance Security is not renewed by the expiry of the 11th (eleventh) month of the relevant year, then the Authority shall be entitled to drawdown the total amount available under the ESHS Performance Security and retain such amount as cash security until such time that the Concessionaire submits an extension or replacement of the ESHS Performance

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Security.

9.2.3 The ESHS Performance Security shall secure the due performance of the Concessionaire's ESHS obligations during the Construction Period and O&M period, as set out in the approved ESHS Documents.

9.3. Operation & Maintenance Period Security

9.3.1 As Condition Precedent to the COD, within 60 (sixty) days of the Construction Completion Date, or 30 (thirty) days before COD, whichever is earlier, the Concessionaire shall furnish an unconditional and irrevocable bank guarantee to the Authority, for an amount corresponding to [4% (four per cent)] of the Project Cost (the **"O&M Security"**). This amount shall be equal to an amount corresponding to [4% (four per cent)] of the Payable Tipping Fee of the Previous Year (excluding any penalties, etc.). For the First Year after COD, this amount shall be equal to 4% of the Tipping Fee multiplied by the Project Design Capacity.

For the Last Year of the Concession, the validity of the O&M Security shall be such that it will be 100% valid and released in equal annual installments over the next 15 years subject to the post-closure activities being carried out satisfactorily.

9.3.2 The Concessionaire shall furnish the O&M Security in the same format as provided for the Performance Security in the RFP, with necessary modifications. The Concessionaire shall maintain the O&M Security in full force and effect until the expiry of the O&M Period. The O&M Security shall have an initial validity period of 1 (one) year, which must be renewed on a year-on-year basis, before the expiry of the 11th (eleventh) month of the relevant year, until the Termination or expiry of the Concession Agreement.

9.3.3 The O&M Security shall secure the due performance of all the Concessionaire's obligations during the O&M Period.

9.4. Extension of Performance Securities

9.4.1 If the Performance Security is scheduled to expire before the COD, then the Concessionaire shall arrange for an extension of the Performance Security at least 30 (thirty) days prior to such expiration. If the Concessionaire fails to procure such extension or replacement, the Authority shall be entitled to drawdown the total amount available under the Performance Security and retain such amount as cash security until such time that the Concessionaire submits an extension or replacement of the Performance Security, that is scheduled to expire.

9.4.2 If the ESHS Performance Security is scheduled to expire before the expiry of the O&M period, the Concessionaire shall replace or arrange for an extension of the ESHS

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Performance Security at least 30(thirty) days prior to such expiration. If the Concessionaire fails to procure such extension or replacement, the Authority shall be entitled to drawdown the total amount available under the ESHS Performance Security and retain such amount as cash security until such time that the Concessionaire submits an extension or replacement of the ESHS Performance Security.

9.4.3 If any O&M Security is not renewed by the expiry of the 11th (eleventh) month of the relevant year of the O&M period, then the Authority shall be entitled to drawdown the total amount available under the O&M Security and retain such amount as cash security until such time that the Concessionaire submits an extension or replacement of the O&M Security.

9.5. Encashment of Performance Securities by the Authority

9.5.1 The decision of the Authority as to any breach/ delay having been committed, liability accrued or loss or damage caused or suffered shall be conclusive, absolute and binding on the Concessionaire and the Concessionaire specifically confirms and agrees that no proof of any amount of liability accrued or loss or damages caused or suffered by the Authority under this Concession Agreement is required to be provided in connection with any demand made by the Authority to recover such compensation through appropriation of the relevant amounts from the Performance Security/ O&M Security/ESHS Performance Security under this Agreement.

9.5.2 In the event of encashment of the Performance Security/O&M Security/ESHS Performance Security by the Authority, in full or part, the Concessionaire shall within 15 (fifteen) days of receipt of the encashment notice from the Authority provide a fresh Performance Security/ O&M Security /ESHS Performance Security or replenish (in case of partial appropriation) the existing Performance Security, as the case may be. The provisions of this Article shall apply *mutatis mutandis* to such fresh Performance Security/O&M Security/ESHS Performance Security. The Concessionaire's failure to comply with this provision shall constitute a default or breach of the Concession Agreement by the Concessionaire, which shall entitle the Authority to terminate this Concession Agreement in accordance with the provisions hereof.

Provided that if the Agreement is terminated due to any event other than a Concessionaire Event of Default, the Performance Security if subsisting as of the Termination Date shall subject to the Authority's right to receive amounts, if any, due from the Concessionaire under this Agreement, be duly discharged and released to the Concessionaire.

9.6. Utilization of retained amount

For reference purpose only

9.6.1 The Authority shall be entitled to utilize the retained amount in the same manner as it would utilize the Performance Security, the ESHS Performance Security or the O&M Security, as the case may be.

- Upon receipt of a renewed or replacement Performance Security within 30 (thirty) days of the COD or expiry / termination of the Agreement, the Authority shall return the unutilized cash security amount for the Performance Security to the Concessionaire.
- Upon receipt of a renewed or replacement ESHS Performance Security within 30 (thirty) days of the expiry / termination of the Term, the Authority shall return the unutilized cash security amount for the ESHS Performance Security to the Concessionaire.
- Upon receipt of a renewed or replacement O&M Security within 30 (thirty) days of the expiry / termination of the O&M period, the Authority shall return the unutilized cash security amount for the O&M Security to the Concessionaire.
- The interest earned on any retained amounts on cash security shall be the property of the Authority and the Authority shall not be required to account to the Concessionaire for any such interest.

9.6.2 The Authority shall have the right to draw on the Performance Securities and claim up to the amount guaranteed upon the Concessionaire's failure to satisfy any Condition Precedent or honour any of its obligations, responsibilities or commitments during the Construction Period (or until the Termination Period, in case the other Security falls short), or any amount due and payable by the Concessionaire to the Authority (including any Delay Liquidated Damages), in accordance with this Agreement.

9.6.3 The Authority shall have the right to draw on the O&M Securities and claim up to the amount guaranteed upon the Concessionaire's failure to honour any of its obligations, responsibilities or commitments during the O&M period, or any amount due and payable by the Concessionaire to the Authority (including any Liquidated Damages), in accordance with this Agreement.

9.6.4 Without prejudice to its right to draw on the Performance Securities or, as the case may be, the O&M Securities, the Authority shall have the right to draw on the ESHS Performance Securities and claim up to the amount guaranteed upon the Concessionaire's failure to honour any of its ESHS related obligations, responsibilities or commitments during the Construction Period or the O&M period, as set out in the approved ESHS Documents, in accordance with this Agreement.

9.6.5 Bank Guarantees would not be released in case of breach by the Concessionaire of any of the terms of the Agreement.

9.7. Cost to be borne by Concessionaire

The cost of procuring the Performance Security, the ESHS Performance Security and the O&M Security shall be borne solely by the Concessionaire.

9.8. Demand under Performance Securities

9.8.1 The Authority shall not be required to give any prior notice to the Concessionaire of its intention to make a demand under the Performance Securities, the ESHS Performance Securities or the O&M Securities, as the case may be. However, the Authority shall provide the Concessionaire with a copy of any demand notice issued by them under the Performance Securities, the ESHS Performance Securities or the O&M Securities, simultaneously with the issuance of the demand notice to the Scheduled Bank that has issued the relevant Performance Security, ESHS Performance Security or the O&M Security.

9.8.2 If the Authority makes a demand under any Performance Security and/or ESHS Performance Security and/or O&M Security, in part or in full, the Concessionaire shall immediately and in no event later than 15 (fifteen) days of such demand, restore the value of such Performance Security, ESHS Performance Security or O&M Security to the amount stated in Sub-Clauses 9.1.1, 9.2.1 and 9.3.1.

9.9. Release of Performance Security by the Authority

9.9.1 Within 30 (thirty) days from the COD or the termination of this Agreement, whichever is earlier, the Performance Securities or, as the case may be, the amount retained by the Authority as cash security, shall be released to the Concessionaire after the expiry of 30 (thirty) days from the COD or termination of this Agreement, subject to the Authority's right to receive any amounts from the Concessionaire before or upon COD or Transfer Date.

9.9.2 Upon the expiry of the O&M period or the termination of this Agreement, whichever is earlier, O&M Securities, the ESHS Performance Securities or, as the case may be, the amount retained by the Authority as cash security, shall be released to the Concessionaire after the expiry of 30 (thirty) days from the Termination of this Agreement, subject to the Authority's right to receive any amounts from the Concessionaire before or upon Transfer Date.

9.10. Mobilization Advance Guarantee (Deleted)

For reference purpose only

9.11. Technology Performance Security (Deleted)

9.12. Additional Performance Security (Deleted)

For reference purpose only

ARTICLE 10 : THE SITES

10.1. The Sites

10.1.1 The Sites of the Project Facilities shall comprise of the land as described in Schedule 8, and in respect of which the Rights of Way shall be provided and granted by the Authority to the Concessionaire on a leave and license basis under and in accordance with this Agreement (the "Sites").

10.1.2 The Sites would include (but not limited to) land for setting up of Project Facilities relating to Processing & Disposal Facility which shall be provided by the Authority for the establishment of the Processing & Disposal units as per this Agreement.

10.1.3 Without prejudice and subject to the Agreement, the ownership of the Project except Sites, including all improvements made therein by the Concessionaire, during the Concession Period, shall at all times remain with the Concessionaire.

10.1.4 Vesting of Site to Concessionaire: The Authority shall provide land for processing facilities for each package for permissive use only. Additional land, if available and required, may be provided to Concessionaire on a permissive use basis for this Project by the Authority. Furthermore, Concessionaire/Authority shall have the full right to regulate the entry into and use of the Site. The land shall be provided to Concessionaire as per the Obligations of the Authority.

It is to be noted that any land, vehicles, machinery, equipment, etc. handed over by the Authority to the Concessionaire shall only be on a permissive use basis and shall remain the property of the Authority.

10.2. Grant of License over the Site

10.2.1 The sites for the establishment of the facilities shall be given on permissive use basis only. The Authority shall grant the Concessionaire a license over the Site along with all necessary Rights of Way, to enter upon, access and occupy the Sites, free of all Encumbrances in accordance with this Article 10, Applicable Laws, and Applicable Permits. The license granted on permissive use basis to the Concessionaire shall include the exclusive right to:

- design, construct, commission, operate and maintain during the O&M Period, the Project Facilities necessary for implementation of the Project at various Sites, in accordance with the SWM Rules, and other Applicable Laws;
- install, operate, use, maintain, and remove such equipment, devices or other structures and improvements on, over, or under the Sites, as may be necessary or

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appropriate for the operations and activities required or permitted under this Agreement;

- use Access Roads, gates, fences and utilities at or about the Sites;
- construct, use, operate, maintain, replace and repair electric lines, telecommunication lines, water supply networks and other utilities required to undertake the Project at the Sites.

10.2.2 On and from the Compliance Date and subject to the provisions of this Agreement, Authority shall grant the Concessionaire: (i) license over the Sites including the exclusive right to occupy and use the Sites to construct the Project Facilities; and (ii) all necessary Rights of Way to the Sites. Any charges payable for obtaining the Right of Way will be paid directly by Authority.

10.2.3 Authority shall provide the Site to the Concessionaire free of Encumbrances and free from encroachments as a Condition Precedent. If the Concessionaire discovers any hazardous substances at the time of handover of the Site by Authority, Authority will remove such hazardous substances at its own cost and expense. The Concessionaire's acceptance of the Sites at the time of Authority's handover/giving access to the Sites shall be deemed to be unconditional acceptance and that there were no hazardous substance or any possible form of obstruction to the project at the time of handover of Sites and Concessionaire shall be barred from raising any such issues, whatsoever, after the handover or having access to the Sites.

10.2.4 The Concessionaire shall not without the prior written consent or approval of Authority use the Sites for any purpose other than to undertake the Project and purposes incidental thereto, as permitted under this Agreement or as may be otherwise approved by Authority.

10.2.5 The full ownership and title over the Sites shall vest with Authority for the entire Concession Period.

10.2.6 The Authority warrants that the Concessionaire shall, subject to complying with the terms and conditions of this Agreement, occupy the Sites, from such time that access is granted to the Concessionaire and until the expiry of the Concession Period or early termination of this Agreement. If the Concessionaire is obstructed by any Person claiming any right, title or interest in or over the Sites or any part thereof or in the event of any enforcement action including any attachment, distraint, appointment of receiver or liquidator being initiated by any Person claiming to have a charge on the Site or any part thereof, Authority shall, if called upon by the Concessionaire, defend such claims and proceedings.

10.2.7 Subject to any substitution rights exercised by the Lenders, the license granted by Authority

For reference purpose only

shall automatically terminate upon termination of this Agreement or expiry of the Concession Period.

10.2.8 The Concessionaire hereby irrevocably appoints the Authority (or its nominee) to be its true and lawful attorney, to execute and sign in the name of the Concessionaire a transfer or surrender of the rights granted hereunder at any time after the Concession Period has expired or has been Terminated in terms hereof, whichever is earlier, a sufficient proof of which shall be the declaration of any duly authorised officer of the Authority, and the Concessionaire consents to it being registered for this purpose.

10.2.9 Termination of the Agreement shall automatically terminate the license granted over the Sites.

10.3. Site Data and Verification

10.3.1 Authority has made available to the Concessionaire, the layout plans, and all other relevant data, studies and reports in the Authority's possession in connection with the Sites.

10.3.2 The Concessionaire shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances which may influence or affect the implementation of the Project at the Sites.

10.3.3 The Concessionaire shall also be deemed to have inspected and examined the Site and its surroundings, analysed and verified the accuracy and reliability of the studies, reports and data provided by Authority and any other information available with respect to the Sites and to have satisfied itself as to all the relevant matters including:

- the nature of the Site, including the subsurface, hydrological, climatic and general physical conditions of the Site;
- the suitability of the Site for undertaking the construction and operation of the Project;
- the condition of the utilities available till the battery limits of the Sites;
- the extent, nature and availability of labour, material, transport, accommodation, storage facilities and other facilities and resources necessary to undertake the Project;
- the nature of design, construction work and O&M services necessary for the performance of its obligations under this Agreement;
- Applicable Laws and Applicable Permits required to be obtained and maintained to undertake the Project;

For reference purpose only

- the risk of injury or damage to Adjoining Property and to the occupiers of such property or any other risk;
- the suitability and adequacy of any access roads to the Sites and other utilities and facilities; and
- all other matters that may affect the performance of its obligations under this Agreement.

Subject to Clause 10.3, the Concessionaire acknowledges and agrees that if any error or discrepancy is subsequently discovered in the data made available by the Authority, then the Authority and the Concessionaire may mutually arrive at a decision regarding any extension of the Scheduled COD and/or compensation for additional costs incurred caused due to such error or discrepancy. Provided that the Concessionaire shall not be entitled to any extension as mentioned above, nor shall it be open to the Concessionaire to justify any default or delay on the ground of the Concessionaire having not visited or acquainted itself with the Sites and Sites‟ conditions in any manner whatsoever. Further, any misinterpretation of the data, studies and reports provided by the Authority shall not relieve the Concessionaire from the performance of its obligations under this Agreement on the ground that it could not reasonably be expected to have foreseen any of the matters listed in Clause 10.3.3 above, which affect or may affect the Project or the performance of any of its obligations under this Agreement.

10.4. Unforeseen Site Conditions:

Authority is required to compensate the additional lead charges and other associated costs thereof to the Concessionaire, based on actuals upon occurrence of changes in project facility locations/sites/Transfer station locations from that of the areas /locations/sites specified herein this Agreement. For the purpose of estimation, an aggregate lead of 75 km has been considered as distance of the Project Site from the Transfer Stations.

10.5. Site Related Covenants

10.5.1 The Concessionaire agrees and undertakes that:

- the Concessionaire shall not transfer, alienate, assign, dispose of, sub-license or create any Security over any part of the Site or its rights and interest in the Site, other than as specifically permitted under this Agreement;
- the Concessionaire shall not allow any encroachment on, or unauthorized occupation of any part of the Site and in the event of any encroachment or unauthorized occupation, the Concessionaire shall immediately cause such

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encroachment or any unauthorized occupants to be removed from the Site. The Concessionaire shall not be entitled to any extension of time or costs incurred in removal of any encroachment or any unauthorized occupants from the Site;

- the grant of any rights to a Sub-Contractor or any other third party shall not interfere with or hinder the performance of the Concessionaire's obligations under this Agreement;
- the Concessionaire shall be wholly responsible for safety at and security of the Sites and the Project Facilities developed;
- the Concessionaire shall take all necessary measures to confine its operations, personnel and equipment to the Site and not encroach on any Adjoining Property;
- all minerals, fossils, articles of value or antiquity, structures and other remains or things of geological or archaeological interest and other objects with historic, antique or monetary value discovered at, on or under any of the Sites shall be dealt with in accordance with Applicable Laws and the Concessionaire shall take all necessary precautions to prevent its or its Sub-Contractor's personnel from removing or damaging any such article or thing. Further, immediately upon the discovery of any such article or thing of value, the Concessionaire shall inform the Authority of such discovery and carry out the instructions of the Authority in this regard;
- the Concessionaire shall make good any damage to any roads, footpaths, conduits, and other works on any Adjoining Property, which is caused by the Concessionaire or the Concessionaire Related Parties;
- the Concessionaire shall not to do or permit to be done anything which might:
  - cause destruction, scarring or defacing of natural surroundings in the vicinity of the Site;
  - be or become a danger or nuisance or give rise to liability in tort to any owners or occupiers of the Adjoining Property or to members of the public; or
  - cause any contamination or damage to any Adjoining Property, and the Concessionaire shall, at its own expense, take all reasonable measures and precautions to avoid any such danger, nuisance, tort, damage, or interference and shall make good any damage so caused.

If the construction works and/or the O&M services cannot be carried out without interfering with the rights of the owner or occupier of any Adjoining Property, the Concessionaire shall promptly and at its own cost obtain all necessary third-party consents and/or the approval

of the concerned Authority(ies) to undertake such construction works and/or the O&M services. The Authority shall provide all assistance to the Concessionaire for procuring such approvals.

- The Concessionaire shall not sub-license whole or any part of the Sites.
- The Concessionaire shall obtain and maintain the Applicable Permits in such sequence as is consistent with the requirements of the Project. The Concessionaire shall be responsible and shall be in compliance with the terms and conditions subject to which Applicable Permits have been issued.
- During the Concession Period, the Concessionaire shall protect the Sites from any and all occupations, encroachments or Encumbrances, and shall not place or create nor permit any Contractor or other person claiming through or under the Concessionaire to place or create any Encumbrance or security interest over all or any part of the Sites or the Project Facilities, or on any rights of the Concessionaire therein or under this Agreement, save and except as otherwise expressly set forth in this Agreement.
- The Concessionaire may landscape and develop the Sites and regulate the use thereof in accordance with the Good Industry Practice and in conformity with the provisions of this Agreement.

10.6. Access to Authority Related Parties

10.6.1 The Concessionaire shall ensure that the Authority Related Parties have access to the Sites and the license granted to the Concessionaire over the Site shall always be subject to:

- the rights of Authority, Authority's Representative to enter upon and access the Site to inspect and monitor the progress of the Project, and for the exercise of their rights and the performance of their obligations under this Agreement, provided that Authority shall ensure that the exercise of the inspection or monitoring rights do not impede or obstruct the construction and/or operation of the Project in any manner whatsoever; and
- the rights of the utility providers to enter upon and access the Sites for laying or installing telegraph lines, electric lines or for any other public purpose, if required

If any physical damage is caused to the Sites or the Project Facilities as a result of such access and use of the Sites by Authority, other Authority Related Parties then the Authority shall bear the costs of remedying such damage and restoring the Sites and the Project Facilities.

For reference purpose only

10.7. Sites to be free from Encumbrances

The Sites shall be made available by the Authority to the Concessionaire pursuant hereto free from all Encumbrances and occupations and without the Concessionaire being required to make any payment to the Authority on account of any costs, compensation, expenses and charges for the acquisition and use of such Sites for the duration of the Concession Period, except insofar as otherwise expressly provided in this Agreement. For avoidance of doubt, it is agreed that existing Rights of Way, easements, privileges, liberties and appurtenances to the Sites shall not be deemed to be Encumbrances. It is further agreed that the Concessionaire accepts and undertakes to bear any and all risks arising out of the inadequacy or physical condition of the Sites.

10.8. Land Use

The Concessionaire shall ensure optimum utilization of the Site and land available and shall not use the same for any purpose unconnected or which is not incidental to the Project or related activities, unless otherwise permitted under this agreement. For avoidance of doubt, any land given by Authority to the Concessionaire for this project shall not be used for development of residential or commercial facilities or premises for rent, lease, or similar purpose.

For reference purpose only

ARTICLE 11 : UTILITIES AND ASSOCIATED ROADS

11.1. Existing Utilities and roads

Notwithstanding anything to the contrary contained herein, the Concessionaire shall ensure that the respective entities owning the existing roads, right of way or utilities on, under or above the Site are enabled by it to keep such utilities in continuous satisfactory use, if necessary, by providing suitable temporary or permanent diversions with the authority of the controlling body of that road, right of way or utility, and the Authority shall, upon written request from the Concessionaire, initiate and undertake at the Authority's cost, legal proceedings for acquisition of any right of way necessary for such diversion.

11.2. Shifting of obstructing utilities:

The Authority shall undertake shifting of any utility including electric lines, water pipes and telephone cables, to an appropriate location or alignment within or outside the Site if and only if such utility causes or shall cause a material adverse effect on the construction and operation or maintenance of the Project. The cost of such shifting shall be borne by the Authority or by the entity owning such utility, if the Authority so directs, and in the event of any delay in shifting thereof, the Concessionaire shall be excused for failure to perform any of its obligations hereunder if such failure is a direct consequence of any delay on the part of the entity owning such electric lines, water pipes or telephone cables, as the case may be.

11.3. Felling of trees

The Authority shall assist the Concessionaire in obtaining the Applicable Permits for felling of trees in the project site if and only if such trees cause a material adverse effect on the construction of the plant and operation or maintenance of the Project. The cost of such felling shall be borne by the Authority, and in the event of any delay in felling thereof for reasons beyond the control of the Concessionaire, it shall be excused for failure to perform any of its obligations hereunder if such failure is a direct consequence of delay in the felling of trees. For the avoidance of doubt, the Parties hereto agree that the felled trees shall be deemed to be owned by the Authority and shall be disposed in such manner and subject to such conditions as the Authority may in its sole discretion deem appropriate.

11.4. New utilities and roads

The Concessionaire shall allow, subject to such conditions as the Authority may specify, access to, and use of the Site for laying telephone lines, water pipes, electric cables, or such other utilities. Where such access or use causes any financial loss to the Concessionaire, it

For reference purpose only

may require the user of the Site to pay compensation or damages as per Applicable Laws. For the avoidance of doubt, it is agreed that use of the Site under this Clause shall not in any manner relieve the Concessionaire of its obligation to maintain the Project in accordance with this Agreement and any damage caused by such use shall be restored forthwith.

For reference purpose only

ARTICLE 12 : FINANCIAL CLOSURE AND SUBSTITUTION AGREEMENT

12.1. General Obligations

12.1.1 The Concessionaire expressly agrees and undertakes that it shall itself be responsible for arranging for financing and / or meeting all financing requirements for the Project at its cost and shall enter into Financing Agreements with the Lenders for the same. To this end, the Authority shall co-operate with the Concessionaire to achieve Financial Closure, including providing such consents and waivers as may be reasonably required by the Lenders.

12.1.2 The Concessionaire hereby agrees and undertakes that it shall achieve Financial Closure within [180 (one hundred eighty)] days from the date of this Agreement and in the event of delay, it shall be entitled to a further period not exceeding [90 (ninety)] days, subject to payment of Damages to the Authority in a sum calculated at the rate of 0.1% (zero point one per cent) of the Performance Security for each day of delay.

12.1.3 Damages specified herein shall be payable every week in advance and the period beyond the said [180 (one hundred eighty)] days shall be granted only to the extent of Damages so paid; provided further that no Damages shall be payable if such delay in Financial Closure has occurred solely as a result of any default or delay by the Authority in procuring satisfaction of the Conditions Precedent specified in Article 4 or due to Force Majeure.

12.1.4 In case of a Concessionaire Event of Default, the Authority acknowledge that the Lenders will have a right to substitute the Concessionaire in accordance with Article 26 and the Substitution Agreement. The Authority will suspend its right to step- in or terminate this Agreement until the expiry of the period available to the Lenders to exercise their substitution rights under Article 26.

12.1.5 The Concessionaire shall, upon occurrence of Financial Closure, notify the Independent Engineer/ the Authority forthwith, and shall have provided to the Independent Engineer / the Authority, at least 2 (two) days prior to Financial Closure, 3 (three) true copies of the Financial Package and the Financial Model, duly attested by a Director of the Concessionaire, along with 3 (three) soft copies of the Financial Model in Microsoft Excel version or any substitute thereof, which is acceptable to the Senior Lenders.

12.1.6 The Concessionaire shall maintain books of accounts recording all its receipts (including fees and other revenues derived/collected by it from or on account of any of the Project Facilities and/or its use), income, expenditure, payments (including payments from the Escrow Account), assets and liabilities, in accordance with this Agreement, Good Industry

For reference purpose only

Practice, Applicable Laws and Applicable Permits.

12.1.7 The Concessionaire shall not make any addition, replacement or amendments to any of the Financing Agreements without the prior written consent of the Authority if such addition, replacement or amendment has, or may have, the effect of imposing or increasing any financial liability or obligation on the Authority , and in the event that any replacement or amendment is made without such consent, the Concessionaire shall not enforce such replacement or amendment nor permit enforcement thereof against the Authority. For avoidance of doubt, the Authority acknowledges and agrees that it shall not unreasonably withhold its consent for restructuring or rescheduling of the debt of the Concessionaire.

12.2. Security Creation

12.2.1 The Concessionaire shall be entitled to create assignment by way of Security over all of its rights, title and interests in and to the Concession Agreement and the Escrow Agreement in favor of the Lenders for the purpose of obtaining Financial Assistance for the Project, provided that the creation of such Security will not result in any financial liability to the Authority .

12.2.2 The Concessionaire shall be entitled to include the Lenders as co-insured and/or additional loss payees in any of the insurances taken by the Concessionaire in accordance with Article 28 and/or grant Security over the proceeds of such insurance.

12.2.3 Except for any Security created by operation of law and any Security created pursuant to this Article 12.2, the Concessionaire shall not be entitled to create any other Security over the Concession Agreement, the Escrow Agreement or insurance policies taken by it in favour of any third Persons, without the prior written consent of the Authority, which consent the Authority may deny in its sole discretion.

12.2.4 The Concessionaire shall not be entitled to create any Security over the Site or any part thereof, or any of the Project Facilities whether in favor of the Lenders or any third Persons.

12.3. Termination due to failure to achieve Financial Closure

Notwithstanding anything to the contrary contained in this Agreement, in the event that Financial Closure does not occur, for any reason whatsoever, within the period set forth in this Article or the extended period provided thereunder, all rights, privileges, claims and entitlements of the Concessionaire under or arising out of this Agreement shall be deemed to have been waived by, and to have ceased with the concurrence of the Concessionaire, and the Concession Agreement shall be deemed to have been terminated by mutual agreement of the Parties. In case of Termination due to such an event, the Authority shall have the right to forfeit the Performance Security or bid security. For the avoidance of

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doubt, it is agreed that in the event the Parties hereto have, by mutual consent, determined the Compliance Date to precede the Financial Closure, the provisions of this Article shall not apply.

12.4. Substitution Agreement

12.4.1 This Agreement shall not be assigned by the Concessionaire. Provided, however, subject to the provisions of this Agreement, Lenders may be given the right of substitution by execution of the Substitution Agreement in the form annexed hereto as Schedule 9.

12.4.2 The Lenders may exercise the rights of step in, or substitution as provided in the Substitution Agreement provided that the Nominated Company substituting the Concessionaire shall enjoy all rights and be responsible for performing/ fulfilling all obligations of the Concessionaire under this Agreement.

Provided that in the event the Lenders are unable to substitute the Concessionaire by the Nominated Company as per the provisions of the Substitution Agreement, the Authority shall proceed to terminate the Agreement.

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ARTICLE 13 : INDEPENDENT ENGINEER

13.1. Independent Engineer

The Authority shall appoint a third-party engineering firm with requisite technical expertise, knowledge and experience in the [design, engineering, construction, development, and operation] of waste processing facilities, material recovery facilities, and other machinery and facilities forming part of the integrated solid waste management system as the engineer for the Project (the "**Independent Engineer**"). The Independent Engineer shall assist the Authority in supervising the development of all the amenities and facilities required as basic and support infrastructure for implementation of the Project including construction/renovation, operation and maintenance of facilities for Integrated Solid Waste management system such as infrastructure, collection and transportation vehicles, ICT infrastructure, machinery and equipment procured, inherited, installed and operated and all other Project related physical assets (the "**Project Facilities**") and shall support Authority to monitor compliance with the KPIs during the O&M period. The detailed scope of work of the Independent Engineer is set out in **Schedule 10**.

The Independent Engineer shall be a third-party agency, appointed within 3 (three) months of this Agreement. The Independent Engineer is not to be mistaken as the Project Engineer, who is the Authority's Authorized Signatory.

13.2. Remuneration

The Authority shall pay the Independent Engineer all fees, costs, charges, and expenses payable to the Independent Engineer in accordance with the terms of its appointment (collectively "the Remuneration"). However, the Authority and Concessionaire shall share this expense equally on a 50:50 basis. The Authority shall recover the pro-rated costs payable to the Independent Engineer as Remuneration from amounts payable to the Concessionaire.

13.3. Replacement of the Independent Engineer

13.3.1 The Concessionaire may request the Authority to replace the Independent Engineer if the Concessionaire believes that the Independent Engineer is not performing its duties in accordance with this Agreement or is otherwise impeding the performance of the Concessionaire's obligations under this Agreement.

13.3.2 The Authority may replace the Independent Engineer in any of the following circumstances:

- if it has reason to believe that the Independent Engineer has not discharged its duties in accordance with this Article and/or Schedule 10; or

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- has received a formal complaint from the Concessionaire. In such a case the Authority will make necessary investigations and it is established that the Independent Engineer has not discharged its duties in accordance with this Article and/or Schedule 10; or
- if the Independent Engineer submits its resignation.

13.3.3 In appointing any replacement of the Independent Engineer, the Authority shall comply with this Article and Schedule 10.

13.4. Duties of Independent Engineer:

13.4.1 The Independent Engineer shall be required to act independently, reasonably, fairly, and expeditiously to ensure:

- the timely completion of construction of the Project Facilities on or before the Scheduled Construction Completion Date; and
- compliance with the KPIs during the O&M Period.

13.4.2 The Independent Engineer shall at all times during the Concession Period have the right to enter upon and access the Site. The Concessionaire shall have the right to accompany the Independent Engineer during its inspection of the Project Facilities.

13.4.3 During the Construction Period, the Independent Engineer shall inspect the Project Facilities at least once a month and prepare an inspection report, setting out the progress of the construction of the Project Facilities, defects or deficiencies, if any, and status of compliance with the Construction Plan, Specifications and Standards, and Designs and Drawings. The Independent Engineer shall send the report to the Authority and the Concessionaire within 7 (seven) days of such inspection, pursuant to which, the Concessionaire shall be required to rectify the defects or deficiencies, if any, identified by the Independent Engineer.

13.4.4 During the O&M Period, the Independent Engineer shall inspect the Project Facilities at least once a month and prepare an inspection report, setting out the defects or deficiencies, if any, and status of compliance with the KPIs. The Independent Engineer shall send the report to the Authority and the Concessionaire within 7 (seven) days of such inspection, pursuant to which, the Concessionaire shall be required to rectify the defects or deficiencies, if any, identified by the Independent Engineer. The Independent Engineer shall also have the right to verify the results of the tests undertaken by the Concessionaire at any time during the O&M Period of the quality of the compost or any other by-products created during waste management processes which are intended to be sold in the market.

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13.4.5 The Independent Engineer shall, at all times, have the right to attend any meetings held by the Concessionaire to review the progress of the construction or O&M of the Project Facilities, and to provide its comments/suggestions regarding the progress as well as the manner in which the construction works, or O&M services is being undertaken. Neither any comments/suggestions provided by the Independent Engineer nor any failure to provide comments/suggestions shall be deemed to be an acceptance of the construction works or the O&M services or a waiver of the Concessionaire's obligations to implement the Project, in accordance with this Agreement, the Technical Specifications, the Designs and Drawings, the ESHS Documents, and all Applicable Laws and Applicable Permits.

13.5. Except as specifically provided in this Agreement, the Independent Engineer shall have no authority, whether express or implied, to amend, vary or curtail any of the rights or obligations of the Parties.

13.6. The Concessionaire agrees that notwithstanding any review by the Independent Engineer of any or all the construction works or O&M services, the Concessionaire shall bear all risk, responsibility and liability for the quality, adequacy and suitability of the Project Facilities.

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ARTICLE 14 : PROJECT MANAGEMENT UNIT

[Deleted]

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ARTICLE 15 : CONSTRUCTION PERIOD

15.1. Commencement and Duration

15.1.1 The period for construction of the Project Facilities shall commence on and from the Compliance Date and shall continue until the Construction Completion Date (the "Construction Period").

Notwithstanding anything to the contrary in this Agreement, the Concessionaire shall, prior to the Compliance Date, be entitled to commence:

- soil or geophysical investigation or testing at the Sites; and
- appointment of Sub-Concessionaires for the construction works for the Project Facilities, with the prior approval of the Authority.

15.1.2 [Deleted]

15.2. Designs and Drawings

15.2.1 Basic Engineering Designs

- (a) The Concessionaire shall prepare the Basic Engineering Designs in accordance with the Technical Specifications, Applicable Laws, and Applicable Permits. The Basic Engineering Designs shall be drawn to scale, with accurate dimensions, to minimize construction delays, disputes, and cost overruns and to ensure smooth construction of the Project Facilities and submitted in accordance with Schedule 1 and 2. The Project Facilities should be designed in a manner such that the Concessionaire can obtain consent to operate from the [State Pollution Control Board] for the operation of the Project Facilities. The Basic Engineering Designs should also specify the Proposed Technology(ies) for the implementation of the Project. The technology proposed to establish must be approved technology by any one of statutory bodies or Government departments or CPCB/ or any State PCB. The design and drawing so prepared based on approved technology must get proof checked for the design and drawings by IISc/IITs/NITs/ or any other reputed institutions or Universities.
- (b) Within 30 (thirty) days from the date of Execution of agreement or from the Date of handing over of the land for the facilities, whichever is later, the Concessionaire shall submit 4 (four) set of hard copies and 1 (one) set of soft copy on a compact disc/ USB of the draft Basic Engineering Designs to the Authority for its review and approval.

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- (c) Authority shall forward the Basic Engineering Designs to the Independent Engineer for their review and comments.
- (d) Authority shall provide comments if any, on the draft Basic Engineering Designs (including any comments from the Independent Engineer) to the Concessionaire or notify the Concessionaire of its approval of the draft Basic Engineering Designs within 20 (twenty) days from the date of receipt of the draft Basic Engineering Designs. Authority may require the Concessionaire to amend or modify the draft Basic Engineering Designs if Authority or the Independent Engineer identifies any deficiencies, inaccuracies, or shortcomings in the draft Basic Engineering Designs. If the Concessionaire receives any comments, suggestions or instructions to modify the draft Basic Engineering Designs from Authority, then the Concessionaire shall modify the draft Basic Engineering Designs to correct any such shortcomings, inaccuracies or deficiencies and/or address, in writing, Authority's/ the Independent Engineer's comments on the draft Basic Engineering Designs and submit the revised Basic Engineering Designs to Authority for its approval within 10 (ten) days of receipt of comments. The process set out in this Clause 15.2.1 (a) shall continue until the Basic Engineering Designs are approved by Authority in accordance with this Clause 15.2.1 (d). For the avoidance of doubt, approval of Basic Engineering Designs by Authority/ the Independent Engineer shall not relieve the Concessionaire of its obligations to prepare the Basic Engineering Design in accordance with Technical Specifications, Applicable Laws, and Applicable Permits.
- (e) Use of Proposed Technology
  - The Concessionaire shall design and develop the Project based on the Proposed Technology, approved by the Authority as part of the Designs and Drawings. The technology proposed to establish must be approved technology by any one of statutory bodies or Government departments or CPCB/ or any State PCB. The design and drawing so prepared based on approved technology must get proof checked for the design and drawings by IISc/IIT's/NITs/ or any other reputed institutions or Universities.
  - If the Selected Bidder is the owner of the Proposed Technology, then the Concessionaire shall enter into a technology license agreement with the Selected Bidder, under which the Selected Bidder will grant to the Concessionaire an irrevocable, perpetual, assignable, non-exclusive, and royalty-free license to use the Proposed Technology to develop and operate the Facilities. In any case the technology and design must be proof checked for its design and drawings by any reputed institution who are authorized to do so.

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- If the Selected Bidder does not own the Proposed Technology, then the Concessionaire shall, at its own cost, enter into a technology license agreement with the technology provider, under which the technology provider will grant to the Concessionaire an irrevocable, perpetual, assignable and royalty-free license to use the Proposed Technology. At no point will the Authority and Authority be obliged to make any payments to the Concessionaire regarding the licensing and use of the Proposed Technology.
- Upon the expiry or early termination of this Agreement, the Concessionaire shall assign the license and related rights to use the Proposed Technology for the sole purpose of Construction and Processing the Project at no additional cost to Authority.
- The Concessionaire shall indemnify the Authority for any claims, losses, damages, and costs suffered by the Authority as a result of an infringement of any third party's Intellectual Property Rights caused by the operation and use of the Project Facilities.

15.2.2 Screening Report

- (a) The Concessionaire shall prepare the Screening Report in accordance with the relevant safeguard policies/performance standards/Applicable Laws, and the Environment and Social Management Framework (the "ESMF").
- (b) Within 30 (thirty) days from the Execution Date, the Concessionaire shall submit 4 (four) hard copies and 1 (one) soft copy of the draft Screening Report on a compact disc to the Executing Agency for its review and approval.
- (c) The Authority shall provide comments if any, on the draft Screening Report to the Concessionaire or notify the Concessionaire of its approval of the draft Screening Report within 20 (twenty) days from the date of receipt of the draft Screening Report. Authority may require the Concessionaire to amend or modify the draft Screening Report if Authority identifies any deficiencies, inaccuracies, or shortcomings in the draft Screening Report. If the Concessionaire receives any comments, suggestions, or instructions to modify the draft Screening Report from Authority, then the Concessionaire shall modify the draft Screening Report to correct any such shortcomings, inaccuracies or deficiencies and/or address, in writing, Authority's comments on the draft Screening Report and submit the revised Screening Report to Authority for its approval within 10 (ten) days of receipt of comments. The process set out in this Clause 15.2.2 (c) shall continue until the Screening Report is approved by Authority in accordance with this Clause 15.2.2 (c).

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15.2.3 The process set out in Clause 15.2.2. above shall apply to the submission and approval of the Designs and Drawings for the work corresponding to each Construction/Payment Milestone for the Project Facilities.

15.2.4 The Concessionaire shall construct the Facilities strictly in accordance with the approved Designs and Drawings. If there are any errors or deficiencies in the Technical Specifications, the Designs and Drawings shall consider, address, or rectify such errors or deficiencies. The Concessionaire shall not deviate from or make any subsequent modification or amendment to the approved Designs and Drawings without the prior written approval of Authority. The Concessionaire shall not commence construction of any part of the Project Facilities prior to approval of the Designs and Drawings in accordance with Clause 15.2. If the Concessionaire undertakes any construction work for the Project Facilities prior to the approval of the Designs and Drawings, it shall do so at its own risk and Authority shall have the right to reject any such construction work that does not comply with the approved Designs and Drawings.

15.2.5 Notwithstanding any approval of the Designs and Drawings by Authority, the Concessionaire shall bear all risk, responsibility and liability for the suitability, accuracy, adequacy and practicality of the Designs and Drawings. Subject to satisfaction of Conditions Precedent set out in Article 4, the Concessionaire shall not be entitled to any extension of time and/or costs incurred in the preparation of the Designs and Drawings and complying with the requirements of the Clause 15.2.

15.3. Construction Plan

15.3.1 Within 30 (thirty) days from the date of Execution of agreement or from the Date of handing over of the land for the facilities whichever is later the Concessionaire shall prepare and submit to Authority a detailed Construction Plan. The Construction Plan shall set out:

- The detailed plan for completing the construction (the "Construction Completion Schedule" as set out in Schedule 12) of the Project Facilities by the Scheduled Construction Completion Date; specific activities and extent of construction work to be performed by the Concessionaire to achieve each of the Project Facilities Milestones; and
- the order in which the Concessionaire proposes to execute the construction of the Project Facilities.

15.3.2 Authority shall review and provide comments, if any, on the draft Construction Plan to the Concessionaire or notify the Concessionaire of its approval of the draft Construction Plan within 30 (thirty) days from the date of receipt of the draft Construction Plan from the

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Concessionaire. Authority may require the Concessionaire to amend or modify the draft Construction Plan if Authority identifies any deficiencies or shortcomings in the draft Construction Plan. If the Concessionaire receives any comments, suggestions, or instructions to modify the draft Construction Plan from Authority, then the Concessionaire shall incorporate the suggestions made by Authority and modify the draft Construction Plan to address any such comments, shortcomings or deficiencies identified by Authority. Thereafter, the Concessionaire shall submit the revised Construction Plan to Authority for its approval. The process set out in this Clause 15.3.2 shall continue until the Construction Plan is approved by Authority in accordance with this Clause 15.3.2.

15.3.3 The Concessionaire shall develop and construct the Project Facilities strictly in accordance with the approved Construction Plan. The Concessionaire shall not deviate from or make any subsequent modification or amendment to the approved Construction Plan without the prior written approval of Authority. The Concessionaire shall not commence construction of any part of the Project Facilities prior to approval of the Construction Plan in accordance with this Clause 15.3.

15.3.4 Notwithstanding any approval of the Construction Plan by Authority, the Concessionaire shall be solely liable for completing the construction of the Project Facilities by the Scheduled Construction Completion Date.

15.3.5 The Concessionaire shall submit a consolidated Construction Plan for the Project Facilities.

15.3.6 Within a maximum of 30 (thirty) days from the Execution Date, the Concessionaire shall prepare and submit to Authority a Detailed Project plan for the Integrated Solid Waste Management.

15.3.7 Authority shall review and provide comments, if any, on the draft Plan to the Concessionaire or notify the Concessionaire of its approval of the draft Plan within 20 (twenty) days from the date of receipt of the draft Plan from the Concessionaire. Authority may require the Concessionaire to amend or modify the draft Plan if Authority identifies any deficiencies or shortcomings in the draft Reclamation Plan. If the Concessionaire receives any comments, suggestions, or instructions to modify the draft Plan from Authority, then the Concessionaire shall incorporate the suggestions made by Authority and modify the draft Plan to address any such comments, shortcomings or deficiencies identified by Authority. Thereafter, the Concessionaire shall submit the revised Plan to Authority for its approval. The process set out in this Clause 15.3.6. shall continue until the Plan is approved by Authority in accordance with this Clause 15.3.6.

15.3.8 The Concessionaire shall execute the Project strictly in accordance with the approved Plan. The Concessionaire shall not deviate from or make any subsequent modification or

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amendment to the approved Plan without the prior written approval of the Authority. The Concessionaire shall not commence execution works of Reusable bi products prior to approval of the Plan in accordance with this Clause 15.3.7.

15.3.9 Notwithstanding any approval of the Plan by the Authority, the Concessionaire shall be solely liable for the construction of the Project facilities by the Scheduled Completion Date and the O&M thereafter.

15.4. ESHS Documents

15.4.1 Within 45 (forty five) days from the date of Execution of agreement or from the Date of handing over of the land for the facilities whichever is later, the Concessionaire shall prepare and submit 4 (four) hard copies and 1 (one) soft copy on a compact disc of the ESHS Documents to the Authority as per format prescribed in **Schedule 13.**

15.4.2 The ESHS Documents shall set out the Project Facilities specific health, safety and environment policies, guidelines and procedures to be followed by the Concessionaire in undertaking the Project, developed in accordance with the applicable safeguard policies/performance standards/Applicable Laws, the ESMF, this Agreement, Applicable Permits, and Good Industry Practices.

15.4.3 The ESHS Documents shall comprise the following:

- Safeguard Documents:

As part of the Safeguard Documents, the Concessionaire shall be required to:

- submit the environment and social impact assessment report (the "ESIA"); and
- prepare the environmental management plan (the "EMP"), OR
- in case of unavailability of such existing documents, create ESIA and prepare the EMP.
- Safety Documents

As part of the Safety Documents, the Concessionaire shall be required to prepare the following:

- environment, social, health and safety management plan (the "ESHSMP");
- environmental, social, health and safety management strategies and implementation plan (the "ESHS-MSIP") (shall be prepared on the basis of the template of requirements as set out in Schedule 13). The ESHS-MSIP shall include the following, for the purposes of managing the key ESHS risks in relation to the Project:

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- traffic management plan to ensure safety of local communities from construction traffic;
- water resource protection plan to prevent contamination of drinking water;
- boundary marking and protection strategy for mobilization and construction to prevent offsite adverse impacts; and
- Strategy for obtaining Concessionaire Applicable Permits prior to the start of relevant works.

- Code of Conduct

The Code of Conduct shall be prepared on the basis of the requirements set out in Schedule 13. The Code of Conduct shall apply to the Concessionaire's employees and subcontractors and shall set out the ESHS obligations of the Concessionaire under the Agreement relating to risks associated with labor influx, spread of communicable diseases, sexual harassment, gender-based violence, illicit behavior, and crime, and maintaining a safe environment etc. The Code of Conduct shall also set out the manner in which the Code of Conduct will be implemented, including how it will be introduced into conditions of employment/engagement, what training will be provided, how it will be monitored and how the Concessionaire proposes to deal with any breaches.

- In the ESHS, the Concessionaire shall also be required to provide details of the core team of 3 (three) people for implementation of the Concessionaire's ESHS obligations, comprising: (i) health expert and safety specialist; (ii) an environmental specialist; and (iii) social specialist, who meet the minimum qualification requirements in Schedule 13.

- Within 30 (thirty) days from the Execution Date, the Concessionaire shall prepare and submit 4 (four) hard copies and 1 (one) soft copy of Labour Influx and Workers Camp Management Plan to Authority that addresses specific activities that will be undertaken to minimize the impact on the local community, including elements such as worker codes of conduct, training programs on HIV/AIDS, etc. A Workers' Camp Management Plan addresses specific aspects of the establishment and operation of workers‟ camps.

- This Labor Influx and Workers‟ Camp Management Plan will include:

- Mandatory and repeated training and awareness raising for the workforce about refraining from unacceptable conduct toward local community members, specifically women;
- informing workers about national laws that make sexual harassment and gender-based violence a punishable offence which is prosecuted;

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- introducing a Worker Code of Conduct as part of the employment contract, and including sanctions for non-compliance (e.g., termination), manual scavenging, engagement with local residents, child labor, nondiscrimination, harassment of coworkers including women and those belonging to Scheduled Castes and Schedules Tribes and other minority social groups,
- Concessionaires adopting a policy to cooperate with law enforcement agencies in investigating complaints about gender-based violence.
- training programs on HIV/AIDS and other communicable diseases,
- workers' Camp Management Plan addressing specific aspects of the establishment and operation of workers' camps.; and
- complaint handling mechanism at the Project level.

15.4.4 The Authority shall forward a copy of the draft ESHS Documents to the Independent Engineer and the Authority for its review and comments.

15.4.5 The Authority shall provide comments, if any, on the draft ESHS Documents (including any comments from the Independent Engineer) to the Concessionaire or notify the Concessionaire of its approval of the draft ESHS Documents within 30 (thirty) days from the date of receipt of the draft ESHS Documents from the Concessionaire. Authority may require the Concessionaire to amend or modify the draft ESHS Documents if Authority or the Independent Engineer or the Authority identifies any deficiencies or shortcomings in the draft ESHS Documents. If the Concessionaire receives any comments, suggestions, or instructions to modify ESHS, the draft ESHS Documents from Authority, then the Concessionaire shall modify the draft ESHS Documents to address any such comments, shortcomings or deficiencies identified by Authority. Thereafter, the Concessionaire shall submit the revised ESHS Documents to Authority for its approval. The process set out in this Clause 15.4.5. shall continue until the ESHS Documents are approved by Authority in accordance with this Clause 15.4.5.

15.4.6 The Concessionaire shall ensure that its Sub-Concessionaires/subcontractors comply with and conform to all aspects of the ESHS Documents, approved in accordance with this Clause 15.4, in executing the Project. Any failure of the Concessionaire or the Sub-Concessionaires to comply with the ESHS Documents shall constitute a Concessionaire Event of Default. The Concessionaire shall indemnify The Authority against all costs, expenses, penalties, and liabilities incurred/suffered by Authority the Authority due to the Concessionaire's or any Sub-Concessionaire's failure to comply with the ESHS Documents in the course of execution of the Project. The Concessionaire shall not deviate from or make any subsequent modification or amendment to the approved ESHS Documents without the

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prior written approval of Authority.

15.4.7 Neither any approval of the ESHS Documents by Authority, nor any failure to review and provide comments on the ESHS Documents shall excuse any failure by the Concessionaire to adopt proper and recognized safety and environment friendly practices during the execution of the Project. The Concessionaire shall bear all risk, responsibility and liability for the accuracy and adequacy of the final ESHS Documents in ensuring compliance with the applicable safeguard policies/performance standards/Applicable Laws, the ESMF, this Agreement, Applicable Permits and Good Industry Practices in the execution of the Project. The Concessionaire shall not be entitled to any extension of time and/or costs incurred in preparation of the ESHS Documents and complying with the requirements of Clause 15.4.

15.5. Sub-contracting

15.5.1 The Concessionaire may enter into Sub-Contracts to perform any part of its Scope of Work during the Construction Period, with the prior intimation to Authority.

15.5.2 The Concessionaire shall provide a copy of each proposed Sub-Contract, along with details of the relevant Sub-Contractor, for the record to Authority, which should set out the precise Scope of Work to be Sub-contracted to such Sub-Contractor and should be consistent with the terms of this Agreement.

15.5.3 The Concessionaire shall be responsible for the supervision and monitoring of the performance of any work or services by the Sub-Contractor.

15.5.4 If the Concessionaire proposes to novate or replace a Sub-Contract after submission of details as required under Article 26. above, then such novation or replacement shall also be intimated to Authority.

15.5.5 The Concessionaire shall be and remain liable under this Agreement for all work and services subcontracted under this Agreement and for all acts, omissions, or defaults of any Sub-Contractor. No default under any Sub-Contract shall excuse the Concessionaire from its obligations or liabilities under this Agreement. All references in this Agreement to any act, default, omission, breach, or negligence of the Concessionaire shall be construed to include any such act, default, omission, breach, or negligence of the Sub-Contractors.

15.5.6 The Independent Engineer and Authority have the right to access information and audit the Sub-Contractor files with regards to the Concession Agreement.

15.6. Concessionaire's Construction Obligations

15.6.1 The Concessionaire shall design, finance, construct and complete the Project Facilities and

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achieve the COD in accordance with Applicable Laws, Applicable Permits, Good Industry Practice, the Technical Specifications, the ESHS Documents, the Designs and Drawings, the Construction Plan and other provisions of this Agreement.

For this purpose, during the Construction Period, the Concessionaire shall:

- complete the work corresponding to each Milestone by the Scheduled Milestone Completion Date and complete the development and construction of the relevant Project Facilities by the relevant Scheduled Construction Completion Date, in a manner that:
  - is in compliance with the Technical Specifications, the Designs and Drawings, the Construction Plan, the ESHS Documents, Applicable Laws, Applicable Permits and Good Industry Practices. For the avoidance of doubt, if there arises any ambiguity or conflict between the Technical Specifications and any Applicable Laws, then the one setting out the more stringent requirements or specifications shall prevail;
  - the Project Facilities are fabricated, erected, installed and completed in accordance with the final Designs and Drawings;
  - the Project Facilities are free from all defects in design, materials, and workmanship;
  - the Project Facilities are safe, reliable and fit for purpose;
  - the Project Facilities shall be capable of operating up to their respective design capacity; and
  - maintain and comply with the conditions of all Applicable Permits in undertaking the construction of the Project Facilities;
  - within 30 (thirty) days of the Compliance Date, and in any event, prior to the commencement of any construction of the Project Facilities, appoint a Person with sufficient skill and expertise to act as the Concessionaire's Representative. The Concessionaire's Representative shall monitor, coordinate, and supervise the completion of the Project Facilities, and liaise with Authority's Representative and the Authority Representative and the Independent Engineer during the Construction Period and the O&M Period. At any time during the Concession Period, the Concessionaire may replace the Concessionaire's Representative with prior written notice to The Authority ;
  - provide all necessary assistance to the Independent Engineer, the Authority, and Authority in undertaking inspection of the Project Facilities, and in performing its other obligations and duties under this Agreement;

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- [deleted]
- ensure that none of its employees, consultants, service providers, suppliers, or Sub-Contractors, who may be engaged in future, shall be engaged in corrupt, fraudulent, collusive, coercive or obstructive practice;
- reasonably consider and act upon the comments/suggestions made by the Independent Engineer and Authority during any meetings with the Concessionaire;
- rectify any defects and/or deficiencies in the Project Facilities, including any defects and/or deficiencies identified by the Independent Engineer or Authority;
- take all necessary measures to maintain the safety and security of personnel, material and property at the Site(s) and the Adjoining Properties, in accordance with the approved ESHS Documents and all Applicable Laws;
- ensure that all excavated materials, earthworks, waste materials and hazardous substances are stored and/or disposed in accordance with the ESHS documents, Applicable Laws and Applicable Permits:
- submit monthly reports to the Independent Engineer (with a copy to Authority), no later than 10 (ten) days after the end of each month, which should set out the following:
  - extent of progress of construction activities performed by the Concessionaire for the Project Facilities;
  - comparison of actual progress against the planned progress of construction works, reasons for delay, if any and steps taken by the Concessionaire to mitigate the delay;
  - details of any accident or hazardous incident at the Site(s) and the steps taken by the Concessionaire to mitigate the consequences of such accident;
  - status of rectification of defects and/or deficiencies discovered by the Independent Engineer or Authority;
- ensure that an adequate number of suitably skilled and experienced contractors, architects, workmen and other personnel are engaged to undertake the Project. The Concessionaire shall be solely responsible for the work performed by any staff and labour engaged by it to execute the Project and for payment of all applicable labour charges, fees, payable under Applicable Laws (including labour welfare legislations) in connection with the skilled and unskilled manpower employed for the Project, including specifically the "Building and Other Construction Workers Welfare Cess Act, 1996". The Concessionaire shall ensure that its Sub-Contractors provide all necessary amenities and welfare facilities for the staff and labour

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engaged by them at the Site(s) and comply with all applicable labour laws. The Concessionaire shall indemnify and hold harmless The Authority from and against all claims, liabilities, expenses, costs and losses suffered or incurred by Authority or the Authority due to the Concessionaire's or any Sub- Concessionaire's failure to comply with any Applicable Laws (including labour welfare legislations);

- arrange for all equipment, machinery, tools and other resources required to undertake the Project and be solely responsible for such equipment, machinery, tools and resources;
- take all reasonable measures to ensure that the transportation of any of the Concessionaire's or the Sub-Contractors' personnel or equipment, to or from the Site(s), does not interfere with local traffic in the vicinity of the Site(s);
- maintain accurate and systematic accounts and records of goods and material utilized and other costs and expenses incurred in connection with the construction works for the Project Facilities, including all invoices, receipts, challans, vouchers, quotations and other records and documents with respect to the Project Facilities in accordance with Applicable Laws;
- obtain and maintain adequate insurances as per this Agreement; and
- prepare and keep up-to-date, "as-built" records of the execution of the construction work for the Project Facilities, showing the exact as-built locations, sizes and details of the works executed. The "as-built" records shall be kept on the Site(s) and be made available to the Independent Engineer and Authority for review and verification. The Concessionaire shall provide 4 (four) hard copies and 1 (one) soft copy on a compact disc, of the complete set of "as-built" drawings for the Project Facilities to Authority as a condition precedent to the issuance of the Construction Completion Certificate.

15.7. Waste to Energy Plant(s)

[deleted]

15.8. Rights and Obligations of Authority

15.8.1 During the Construction Period, Authority shall:

- comply with all its obligations under Applicable Laws (including, specifically the [Act applicable in Karnataka] Act) and Applicable Permits;
- make reasonable endeavors to assist the Concessionaire in obtaining the Applicable Permits from the relevant Authorities, provided that the Concessionaire has

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complied with all the requirements as per Applicable Laws for applying for such Applicable Permits;

- within 30 (thirty) days of the Compliance Date, and in any event, prior to the commencement of any construction for the Project Facilities, appoint a Person with sufficient skill and expertise to act as Authority's Representative. Authority's Representative shall liaise with the Concessionaire's Representative, and the Independent Engineer during the Construction Period and the O&M Period. At any time during the Concession Period, Authority may replace Authority's Representative with prior written notice to the Concessionaire and the Authority;
- cause the Independent Engineer to carry out timely inspection of the Project Facilities, and perform its other obligations and duties under this Agreement;
- upon progressive completion of construction works for the Project Facilities in accordance with the Technical Specifications, Designs and Drawings, Construction Plan and other provisions of this Agreement, as certified by the Independent Engineer, issue the Milestone Completion Certificates and the Construction Completion Certificate to the Concessionaire;
- ensure that the Concessionaire enjoys peaceful access to the Site(s) and shall not assign, transfer, or otherwise dispose its rights, title, and interest in the Site(s) or create any Encumbrance over any part of the Site(s), which may adversely impact the exercise of the Concessionaire's rights and duties under this Agreement; and
- ensure that the Escrow Account is funded with the Minimum Escrow Balance.

15.9. Utilities

15.9.1 The Concessionaire shall obtain, install and maintain at its cost, all utilities necessary for undertaking the construction of the Project Facilities, including all temporary power and water connections, lighting facilities, telephone connections, internet connections, etc., at the Site(s). The Authority shall only provide support for utilities like access roads, drainage, power, and water as per Clause 4.1.2 (h). The Concessionaire shall bear the cost of all power, water, and other utilities consumed by it during the Construction Period, and the Concessionaire shall not be entitled to claim any reimbursement from Authority in this regard.

15.9.2 The Concessionaire shall not be entitled to any extension of time or costs to comply with its obligations in Clause 15.9.1 and Clause 15.9.2 above.

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15.9.3 The Authority shall provide any reasonable assistance required by the Concessionaire to obtain the utilities for the construction of the Project Facilities.

15.10. Construction Timelines

15.10.1 The Concessionaire shall comply with the Construction Plan, the Designs and Drawings and the Technical Specifications and complete the construction of the Project Facilities on or before the date scheduled for completion of construction works (the "Scheduled Construction Completion Date" as per Schedule 12).

15.10.2 Subject to Clause 15.10.3 below, the Concessionaire shall be entitled to a day-for- day extension of the relevant Scheduled Milestone Completion Date or as the case may be, the Scheduled Construction Completion Date, if the completion of construction of the Project Facilities is delayed due to any of the following reasons (each such event, a "Delay Event"):

- occurrence of a Force Majeure Event, provided that the requirements of Article 14 have been complied with;
- a Qualifying Change in Law;
- any delay attributable to unforeseen Site conditions; or
- any variation proposed by the Authority in the Technical Specifications or the Designs and Drawings.
- delay caused in complying with any instructions of the Authority or the Independent Engineer, which instructions are not attributable to any default of the Concessionaire.

The Concessionaire shall promptly provide the Authority (with a copy to the Independent Engineer) with a notice upon becoming aware of any Delay Event listed at Article 15.10.2 above. The notice should specify the nature of the Delay Event, the extent of delay suffered or likely to be suffered by the Concessionaire and mitigation measures being taken by the Concessionaire.

The issuance of the notice under this Article 15.10.2, within 7 (seven) days from the date the Concessionaire became aware of the Delay Event, shall be a condition precedent to the Concessionaire's entitlement to an extension under Article 15.10.2.

For the avoidance of doubt, a Delay Event shall allow the Concessionaire only the extension of time and no additional costs.

15.10.3 Without prejudice to the Concessionaire's obligations to notify the Authority regarding the occurrence of a Delay Event above, the Concessionaire shall: (i) keep and maintain records as reasonably necessary to substantiate and establish claims for extensions under Article

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15.10.2; and (ii) give the Authority and the Independent Engineer access to such records and documents or provide the Authority and the Independent Engineer with copies, if so requested.

15.10.4 If the Concessionaire claims an extension of time in accordance with Article 15.10.2 and the Authority is of the opinion that such delay was caused or materially contributed to by any concurrent or interacting cause or causes of delay not listed in Article 15.10.2 but solely attributable to the Concessionaire, then the Concessionaire shall not be entitled to any extension of time for the concurrent period of delay.

15.10.5 If two or more of the Delay Events listed in Clause 15.10.2 occur concurrently, then such concurrent period shall not be counted twice in determining an extension under Clause 15.10.2.

15.10.6 Except as provided in Clause 15.10.2, the Concessionaire shall not be entitled to any extension of time for any reason whatsoever, including due to:

- delay caused in complying with any instructions of the Authority or the Project Engineer which are attributable to any act or omission of the Concessionaire;
- failure of any Sub-Contractor to commence or carry out any work within the prescribed timelines;
- unavailability or shortage of equipment, materials, or any other resources
- any delay in approving the drafts of the Designs and Drawings, the Construction Plan, the ESHS Documents or any other document submitted by the Concessionaire due to any deficiencies or shortcomings in such drafts of the Designs and Drawings, the Construction Plan, the ESHS Documents or other documents, as the case may be; or

15.10.7 Any Dispute between the Parties with respect to the occurrence, length of subsistence or consequence of any of the Delay Event shall be settled in a final and binding manner in accordance with Article 27.

15.11. Delay Liquidated Damages:

15.11.1 Subject to Clause 15.10.2, if the Concessionaire fails to complete the work corresponding to any Milestone by the relevant Scheduled Milestone Completion Date (as per Clause 15.12) or fails to complete the construction of the Project Facilities by the Scheduled Construction Completion Date, then the Authority shall be entitled to liquidated damages for each day of delay beyond the Scheduled Milestone Completion Date, or, as the case may be, the Scheduled Construction Completion Date, at the rate of [[0.1% (zero point one per

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cent)] of the Performance Security (in case of a delay in achieving a Project Facilities Milestone or completing the Project Facilities by the Scheduled Construction Completion Date)]for each day of delay up to [6 (six)] months from the Scheduled Milestone Completion Date, or the Scheduled Construction Completion Date as the case may be (the "Delay Liquidated Damages").

The Delay Liquidated Damages will be payable until the work for the relevant Milestone is completed or, as the case may be, the construction of the Project Facilities is completed, as certified by the Authority in accordance with Article 15.11.

If the Concessionaire completes the construction of the Project Facilities by the Scheduled Construction Completion Date, the aggregate Delay Liquidated Damages recovered by the Authority under this Article 15.11 for a delay in achieving any Milestone shall be refunded by the Authority to the Concessionaire, without any interest.

15.11.2 The Authority shall be entitled to deduct the Delay Liquidated Damages from the tipping fee amount payable to the Concessionaire for any month, and if such amounts are not available, the Authority shall have a right to invoke the Performance Security(ies) to the extent of the Delay Liquidated Damages.

15.11.3 The Parties acknowledge that the Delay Liquidated Damages are a genuine pre- estimation of and reasonable compensation for the loss that shall be suffered by the Authority as a result of the delay in the completion of the Project Facilities, and not as penalty.

15.11.4 If, for any reason, the above paragraphs relating to the payment of Delay Liquidated Damages are void, invalid or otherwise inoperative so as to disentitle the Authority from claiming any Delay Liquidated Damages, then the Authority will be entitled to claim against the Concessionaire for general damages for delay in completing the works for the relevant Milestone by the Scheduled Milestone Completion Date, or for the delay in completing the construction of the Project Facilities by the Scheduled Construction Completion Date.

15.11.5 If the Concessionaire fails to complete the works for a Milestone within 6 (six) months of the Scheduled Milestone Completion Date or if the Concessionaire fails to complete the construction of the Project Facilities within 6 (six) months from the Scheduled Construction Completion Date, other than on account of any Delay Event (the "Grace Period"), then such failure shall be deemed to be a Concessionaire Event of Default in accordance with Clause .

15.11.6 The deduction of Delay Liquidated Damages shall not relieve the Concessionaire from its obligations to complete the construction of the Project Facilities, or from any of its other duties, obligations or responsibilities under the Agreement. The Concessionaire shall use

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and continue to use its best endeavors to avoid or reduce further delay in completing the Project Facilities.

15.11.7 Bonus on early completion: NOT APPLICABLE

15.12. Completion of Works

15.12.1 Completion of Milestones:

- (a) Upon completion of the works corresponding to each Milestone, as specified in the Construction Plan, the Concessionaire shall issue a notice to Authority, with a copy to the Independent Engineer and the Authority to inspect (or cause the Independent Engineer to inspect) the completed works covered by the relevant Milestone. The purpose of such inspection shall be to determine whether the works corresponding to the relevant Milestone have been completed in accordance with the requirements of Article 15.6.

- (b) If Authority is satisfied that the works for the relevant Milestone have been completed in accordance with the requirements of Article 15.6, then, subject to Article 15.12.1(e) below, Authority shall issue a Milestone Completion Certificate to the Concessionaire for such completed Milestone, within 7(seven) Business Days from the date of inspection of the works covered by such Milestone.

- (c) If Authority is of the view that the works for the relevant Milestone do not satisfy the requirements of Article 15.6, then Authority shall have the right to provide any comments, suggestions and/or instruct the Concessionaire to carry out necessary modifications, to ensure that the works comply with the requirements of Article 15.6. Upon receipt of such comments, suggestions or instructions from Authority, the Concessionaire shall make necessary modifications to the works to remedy any defects or deficiencies and re-issue a notice to Authority. The Concessionaire shall bear all costs of remedying the defects and deficiencies in the works and shall not be entitled to any extension of time for remedying such defects or deficiencies. This process shall be repeated until Authority is satisfied that the works for the relevant Milestone have been completed in accordance with the requirements of Article 15.6 and issues a Milestone Completion Certificate in accordance with this Article 15.12.1.

- (d) If Authority fails to:

  - inspect the completed portion of the works covered by the relevant Milestone, within 7 (seven) Business Days from the date of receipt of a notice from the Concessionaire under Clause 15.12.1(a) above;

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- provide any comments or suggestions or notify the Concessionaire of any defects or deficiencies in the completed portion of the works covered by the relevant Milestone, within 7 (seven) Business Days from the date of inspection of such completed portion of the works; or
- issue the Milestone Completion Certificate, within 7 (seven) Business Days from the date of inspection of the completed portion of the works covered by the relevant Milestone, then, such delay shall be treated as a Delay Event, which will entitle the Concessionaire to a day for day extension in the Scheduled Milestone Completion Date or the Scheduled Construction Completion Date, as the case may be, beyond the 7 (seven) Business Days period.

- (e) Authority may exercise its rights to review and certify the completion of works for any Milestone either itself or through the Independent Engineer. If Authority instructs the Independent Engineer to undertake a review of the works, then the Concessionaire shall cooperate with the Independent Engineer to facilitate such review and rectify any defects or deficiencies identified by the Independent Engineer in the works. Provided that, in all instances, Authority shall finally approve the works and issue the Milestone Completion Certificates.

PROJECT PHASE	MILESTONE/ KEY ACTIVITIES TO BE UNDERTAKEN BY CONCESSIONAIRE	TIME PERIOD (DAYS)
Completion Milestone 1: Planning Phase	• Undertake technical investigations and / or studies as required. • Signing of Land Agreement with the Authority. • Preparation and submission of DPR. • Seek Authorities approval for the submitted DPR.	120 days or Four Months from the Signing Date of agreement
Completion Milestone 2: Planning Phase	• Obtain all necessary clearances as defined in Schedule 30. • Financial Closure with Lenders. • Obtain Notice to Proceed from the Authority for construction of SWM Facility.	240 days or Eight Months From Execution Date
Completion	Undertake all the necessary steps,	

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Milestone 3: Interim Phase	including construction activities required for • Processing Facility, ancillary structures, amenities • Landfills. • Secondary Transport Infrastructure.	15 Months from Execution Date
Completion Milestone 4: Construction Phase	• Development & construction of SWM Facility. • Environment management and monitoring.	18 Months for Compost/RDF/ Bio-methanation --- 24 Months for Waste to Energy Plant From handover of the site or getting Environmental Clearance and Consent to Establish
Beyond COD, the Project Milestones shall be as follows:		
Milestone 5: Operations & Maintenance Phase	• Secondary Collection & Transportation, Processing, and disposal of MSW in a scientific manner	30 Years (Post COD)
Milestone 6: Post-closure activities	• Management and closure of the landfill site as per CPCB and State PCB norms	15 Years post O&M Phase

15.12.2 Testing and Commissioning of the Project Facilities

- Upon completion of construction of each Project Facilities, in accordance with the requirements set out in this Agreement, the Concessionaire shall issue a notice to the Authority, requiring it to be present at the Site(s) on the date specified in such notice to undertake a final inspection of the completed Project Facilities and conduct any tests required to ensure that the Project Facilities complies with the Technical Specifications, the Designs and Drawings, Applicable Laws and Applicable Permits.
- Within 5 (five) days from the date of receipt of a notice under Article 15.12.2 above, the Authority may request the Concessionaire to vary the date of the final inspection

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and tests and the Concessionaire shall accommodate such request, provided that, such date shall be no later than 7 (seven) days from the date specified in the notice received from the Concessionaire under Article 15.12.2.

- The Concessionaire shall, on the date specified in the notice issued under Article 15.12.2 or on such other date as may be agreed with the Authority, carry out the tests in accordance with the instructions and under the supervision of the Authority and in accordance with clause 17.1.3 to demonstrate that the Project Facilities complies with the requirements of Article 19.

- If the Authority is not satisfied with the results of the tests or inspection, then the Concessionaire shall remedy any defects or deficiencies in the Project Facilities, identified by the Authority or revealed through the tests and the Project Facilities shall be tested again upon rectification of such defects or deficiencies. This process shall be repeated until such a time that the Authority is satisfied that the Project Facilities has been completed in accordance with Article 14 and is safe and fit for purpose. The Concessionaire shall bear all costs of remedying the defects and deficiencies and retesting the Project Facilities and shall not be entitled to any extension of time for remedying such defects or deficiencies or for retesting the Project Facilities.

- If the Authority is satisfied with the results of the tests and inspection of the Project Facilities, the Authority shall issue the Milestone Completion Certificate in respect of the last Milestone to the Concessionaire, within 7 (seven) days from the date of inspection and testing of the completed Project Facilities. The issue of the Milestone Completion Certificate for the last Milestone shall certify that the Project Facilities has been completed in accordance with this Agreement, the Technical Specifications, the Designs and Drawings, Applicable Laws and Applicable Permits and the Project Facilities is safe and fit for purpose.

- If the Authority fails to:

  - inspect or witness the testing of the Project Facilities within 14 (fourteen) Business Days from the date of receipt of notice from the Concessionaire issued under Article 15.12.2 or such other date as may be agreed with the Concessionaire

  - notify the Concessionaire of any defects or deficiencies in the Project Facilities within 7 (seven) Business Days from the date of inspection and testing of the Project Facilities; or

  - issue the Milestone Completion Certificate for the last Milestone within 7 (seven) Business Days from the date of inspection and testing of the Project Facilities,

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Then, such a delay shall be treated as a Delay Event, which will entitle the Concessionaire to a day-for-day extension in the Scheduled Milestone Completion Date and the Scheduled Construction Completion Date.

15.12.3 Issue of Completion Certificate for Reclamation of Land through Bio-Remediation of Legacy Waste at the Site(s): [Deleted]

15.12.4 Issue of Construction Completion Certificate of Project Facilities

- Within [7 (seven)] Business Days from the date of issuance of the Milestone Completion Certificate for the last Milestone, the Authority shall issue the Construction Completion Certificate for the Project Facilities to the Concessionaire, subject to the following conditions having been fulfilled by the Concessionaire:

  - the submission of 4 (four) hard copies and 1 (one) soft copy on a compact disc of complete sets of the „as-built" drawings of the Project Facilities;
  - the Concessionaire having obtained all Applicable Permits necessary for commencement of the O&M services (including specifically the consent to operate from the [State Pollution Control Board] for the operation of the Project Facilities);
  - the Concessionaire having obtained adequate insurance for the O&M period in accordance with Clause 11.2;
  - the Concessionaire having engaged sufficient number of adequately skilled O&M personnel to perform the services during O&M; and
  - the O&M Manual having been approved by the Authority; and
  - the Concessionaire having cleared the Site(s) and removed all debris, hazardous materials, surplus construction materials, equipment, temporary works, work sheds, labour camps and all other temporary installations on the Site(s).
  - If the Authority fails to issue the Construction Completion Certificate for the Project Facilities to the Concessionaire within [7 (seven)] Business Days from the date of satisfaction of the conditions set out in Clause 15.12.4 above and fails to notify the Concessionaire of any reasons for the failure to issue the Construction Completion Certificate for the Project Facilities, then, the Construction Completion Certificate for the Project Facilities shall be deemed to have been issued to the Concessionaire upon the expiry of the [7 (seven)] Business Days period.
  - The date of the issuance or deemed issuance of the Construction Completion Certificate shall be the Construction Completion Date for the Project Facilities.

15.13. Trial Operations

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15.13.1 Subject to Clause 15.13.3 below, within [1 (one)] day of the issuance or deemed issuance of the Construction Completion Certificate for the Project Facilities to the Concessionaire, the Concessionaire shall commence the Trial Operations of the Project Facilities in accordance with the trial operation procedures to determine whether the Project Facilities meets the KPIs on a continuous basis and is fit and ready to be placed into commercial operations in accordance with this Agreement.

15.13.2 Concessionaire shall ensure that adequate quantity of waste is delivered to the Project Facilities during the Trial Operations to enable the Concessionaire to demonstrate that the Project Facilities meets the Technical Specifications and the KPIs.

15.13.3 If the Concessionaire fails to commence or continue the Trial Operations, due to the inadequate quantity or inferior quality of the MSW or processed products, then the Concessionaire shall promptly notify the Authority . If in the opinion of the Authority , the quantity or quality of Solid Waste is not adequate to undertake Trial Operations, then the Authority shall extend the time period for the Trial Operations. In such case, the date scheduled for commencement of operations (the "Scheduled COD") will also be extended on a day-for-day basis, provided that the Scheduled COD shall not be extended beyond the date which is [6 (six)] months from the Construction Completion Date.

15.13.4 During the Trial Operations, the Authority shall or shall cause the Independent Engineer to monitor the performance of the Project Facilities on a regular basis to ensure that the Project Facilities meets the Technical Specifications.

15.13.5 If the Authority, or, as the case may be, the Independent Engineer is of the view that: (i) the Trial Operations are not being conducted in accordance with the Trial Operations Procedure; or (ii) there are any defects or deficiencies in the Project Facilities, the Authority shall instruct the Concessionaire to follow the trial operation procedures and/or rectify the defects and deficiencies to ensure compliance with the KPIs.

It is clarified that no Damages are payable by the Concessionaire during the Trial Operations period for a failure to achieve the KPIs. However, for the Trial Operations to be successfully concluded, the Concessionaire must demonstrate that the Project Facilities consistently and continuously meets the KPIs during a period of [20 (twenty)] days of Trial Operations period, as may be extended in accordance with Clause 15.13.3 above. If the Project Facilities fails to achieve the KPIs on a continuous basis during [20 (twenty)] days of the [3 (three)] months Trial Operations period (as extended in accordance with Clause 15.13.3, then the Trial Operations period shall be extended by another 20 days. Subject to Clause 15.13.4, the Trial Operations shall continue until the Concessionaire can demonstrate that the Project Facilities consistently achieves the KPIs for 20 (twenty) consecutive days.

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15.13.6 If the Concessionaire has been able to consistently achieve the KPIs for [20 (twenty)] consecutive days (as supported by daily reports), the Concessionaire shall issue a notice to the Authority requiring the Authority to undertake a final inspection of the Project Facilities. the Authority shall have the right to undertake such final inspection within [5 (five)] Business Days of a notice being issued by the Concessionaire.

15.13.7 If, upon final inspection, the Authority is satisfied that the Project Facilities meets the KPIs and the Technical Specifications, and are capable of safe and reliable operations, then, the Authority shall issue the Trial Operations Completion Certificate for the Project Facilities to the Concessionaire within [7 (seven)] days of the Authority undertaking a final inspection of the Project Facilities pursuant to Article 14.13.5 above.

15.13.8 If, upon final inspection, the Authority believes that the Project Facilities does not comply with the KPIs and/or Technical Specifications, then the Authority may reject the Project Facilities and terminate this Agreement. Upon termination of this Agreement, in accordance with this Article 15, the consequences set out in Article 24.4.1 and Article 24.4.7 shall follow.

15.13.9 If the Authority : (i) does not undertake a final inspection of the Project Facilities within [5 (five)] Business Days of receipt of a notice from the Concessionaire under Clause 15.13.4; or (ii) fails to notify the Concessionaire of any defects in the Project Facilities within [7 (seven)] days of undertaking a final inspection; or (iii) fails to issue a Trial Operations Completion Certificate within [7 (seven)] Business Days from the date of the final inspection, then the Trial Operations shall be deemed to have been successfully completed for Project Facilities and the Trial Operations Completion Certificate will be deemed to have been issued to the Concessionaire upon the expiry of the [5 (five)] Business Days period (in case of (i)) and upon the expiry of the [7 (seven)] Business Days period (in case of (ii) and (iii)).

15.13.10 If the Trial Operations are not successfully completed and/or the Concessionaire fails to issue a notice to the Authority under Article 15.13.5 above on or prior to the Scheduled COD, as may be extended in accordance with Article 15.13.3, for any Project Facilities, then such failure shall be treated as a Concessionaire Event of Default and the consequences set out at Article 16 shall follow.

15.13.11 Notwithstanding anything contained in Article 15.13.8, if the Concessionaire fails to successfully complete the Trial Operations for the Project Facilities on or prior to the Scheduled COD, as may be extended in accordance with Clause 15.13.3, then such failure will be treated as an Authority Event of Default, and the consequences set out at Article 24 shall follow

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15.13.12 The Concessionaire will not be entitled to any payment for conducting the Trial Operations, which shall be carried out solely at the cost and risk of the Concessionaire.

15.14. Commercial Operations Date:

15.14.1 Within [7 (seven)] Business Days from the date of issuance or deemed issuance of the Trial Operations Completion Certificates for the Project Facilities, the Authority shall issue the COD Certificate, subject to the following conditions having been fulfilled by the Concessionaire:

- the Concessionaire having received the Construction Completion Certificate;
- the Concessionaire having submitted to the Authority the Scheduled Maintenance Programme for the first-year Post- COD; and
- the O&M Manual having been approved by the Authority ;
- the Concessionaire having submitted the Project Facilities O&M Security to the Authority .

15.14.2 If the Authority fails to issue the COD Certificate to the Concessionaire within 7 (seven) Business Days from the date of satisfaction of the conditions set out in Article 15.14.1 above and fails to notify the Concessionaire of any reasons for the failure to issue the COD Certificate, then, the COD Certificate shall be deemed to have been issued to the Concessionaire upon the expiry of the 7 (seven) Business Days period.

15.14.3 The date on which the COD Certificate is issued or deemed to have been issued to the Concessionaire shall be the Commercial Operations Date of the Project Facilities.

15.15. Safety Certification Prior to Project COD

The Concessionaire shall, not later than [15 (fifteen)] days prior to the likely Project COD, notify the Authority and the Independent Engineer of the compliance or Safety Requirements and invite them to observe any or all the Tests that may be specified by the Independent Engineer in accordance with Applicable Laws, Applicable Permits and Good Industry Practice to determine that the Project infrastructure is safe for entering into commercial service, and the costs of such Tests shall be shared equally between the Concessionaire and the Authority; provided that in case of failure in any Test requiring repetition thereof, the cost of such second or subsequent Test shall be borne entirely by the Concessionaire.

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ARTICLE 16 : OPERATIONS AND MAINTENANCE PERIOD

16.1. Commencement and Duration

The period for the Operation and Maintenance of the Project Facilities, including tasks related to Secondary Transportation, Processing and Disposal, shall commence on and from COD and shall continue for a period of 30 years until the Termination Date (the "O&M period").

16.2. O&M Manual

16.2.1 The Concessionaire shall prepare a detailed O&M Manual for the Project Facilities based on the Proposed Technology and in accordance with the Technical Specifications, the ESHS Documents, Applicable Laws and Applicable Permits. The O&M Manual shall specify the operation procedures (separately for each component of the Project Facilities) and maintenance procedures. In case of any errors or deficiencies in the Technical Specifications, the O&M Manual shall take into account, address or rectify such errors or deficiencies. The Language of the O&M Manual shall be English.

16.2.2 At least 30 (thirty) days prior to the Scheduled Construction Completion Date, the Concessionaire shall submit 4 (four) hard copies and 1 (one) soft copy on a compact disc of the draft O&M Manual to the Authority for its review and approval.

16.2.3 The Authority shall review and provide comments, if any, on the draft O&M Manual to the Concessionaire or notify the Concessionaire of its approval of the draft O&M Manual within 20 (twenty) days from the date of receipt of the draft O&M Manual from the Concessionaire. The Authority may require the Concessionaire to amend or modify the draft O&M Manual if the Authority identifies any deficiencies, inaccuracies or shortcomings in the draft O&M Manual. If the Concessionaire receives any comments, suggestions or instructions to modify the draft O&M Manual from the Authority, then the Concessionaire shall modify the draft O&M Manual to correct any shortcomings, inaccuracies or deficiencies identified by the Authority and/or address, in writing, the Authority's comments on the draft O&M manual and submit the revised O&M Manual to the Authority within 10 days of having received the Authority's response, for its approval. The process set out in this Article 16.2.3 shall continue until the O&M Manual is approved by the Authority in accordance with this Article 16.2.3

16.2.4 The Concessionaire shall revise the O&M Manual as and when the Concessionaire thinks it necessary to do so and in such case the provisions of Article 16.2.3 will apply as is to the

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approval of the revised manual.

16.2.5 The Concessionaire shall undertake the O&M of the Project Facilities strictly in accordance with the approved O&M Manual. The Concessionaire shall not deviate from or make any amendment to the O&M Manual without the prior written approval of the Authority. The Concessionaire shall not commence operation of the Project Facilities prior to approval of the O&M Manual in accordance with Article 16.2.

16.2.6 Notwithstanding any approval of the O&M Manual by the Authority, the Concessionaire shall bear all risk, responsibility and liability for the suitability, accuracy, adequacy and practicality of the O&M Manual. The Concessionaire shall not be entitled to any extension of time and/or costs incurred in the preparation of or updating the O&M Manual and complying with the requirements of Article16.2.

16.2.7 The Concessionaire shall submit a consolidated O&M Manual for the Project Facilities.

16.3. Sub-Contracting

16.3.1 The Concessionaire may enter into Sub-Contracts to perform any part of its Scope of Work during the O&M period, with the prior intimation to the Authority.

16.3.2 The Concessionaire shall provide a copy of each proposed Sub-Contract, along with details of the relevant Sub-Contractor, to the Authority for its approval, which should set out the precise Scope of Work to be Sub-Contracted to such Sub-Contractor and should be consistent with the terms of this Agreement.

16.3.3 Within 7 (seven) days of the execution of an amendment to any approved Sub- Contract, the Concessionaire shall submit a copy of such amendment to the Authority for its records.

16.3.4 If the Concessionaire proposes to novate an approved Sub-Contract and/or replace an approved Sub-Contractor, then such novation or replacement shall be with prior intimation to the Authority.

16.3.5 Notwithstanding the approval of any Sub-Contractor by the Authority, the Concessionaire shall be and remain liable under this Agreement for all work and services subcontracted under this Agreement and for all acts, omissions or defaults of any Sub-Contractor. No default under any Sub-Contract shall excuse the Concessionaire from its obligations or liabilities under this Agreement. All references in this Agreement to any act, default, omission, breach or negligence of the Concessionaire shall be construed to include any such act, default, omission, breach or negligence of the Sub-Contractors.

16.4. Concessionaire's rights and obligations

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16.4.1 The Concessionaire shall operate and maintain the Project Facilities in a manner that:

- is in compliance with the Technical Specifications, Applicable Laws, Applicable Permits and Good Industry Practice.
- results in the Project Facilities achieving the KPIs as per Article 19;
- ensures that each of the Project Facilities is capable of operating up to its design capacity on a daily basis;
- is safe and reliable, subject to normal wear and tear of the Project Facilities;
- is in compliance with the technology license agreement(s) executed by the Concessionaire for the technology, processes, know-how and systems used or incorporated into the Project Facilities;
- maintains the safety and security of personnel, material and property at the Site(s), in accordance with the approved ESHS Documents, Applicable Laws and Applicable Permits;
- ensures that all waste materials and hazardous substances are stored and/or disposed in accordance with the ESHS Documents, Applicable Laws and Applicable Permits; and
- rectify, cure, remedy all defects, deficiencies, defaults, damage, etc., all of the Project Facilities at its own cost and risk.

16.4.2 The Concessionaire shall provide adequate power backup at the Site(s) (including through installation of DG Sets) to ensure continuous supply of power (even during any interruption(s) in the supply of power from the grid) for the uninterrupted operations of the Project Facilities during the O&M period.

16.4.3 The Concessionaire shall provide all necessary assistance to the Independent Engineer, and the Authority in undertaking inspection and monitoring of the O&M of the Project Facilities.

16.4.4 The Concessionaire shall reasonably consider and act upon the comments/suggestions made by the Independent Engineer and the Authority during any meetings of the Concessionaire with its Sub-Contractors.

16.4.5 The Concessionaire shall provide the Authority and the Independent Engineer with reasonable access to the Site(s) during office hours to monitor and inspect the Project Facilities.

16.4.6 The Concessionaire shall arrange for all equipment, machinery, tools and other resources

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required to undertake the O&M of the project Facilities and shall take all reasonable measures to ensure that the transportation of any of the Concessionaire's or the Sub-Contractors' personnel or equipment, to or from the Site(s), does not interfere with local traffic in the vicinity of the Site(s).

16.4.7 The Concessionaire shall develop and implement a safety and surveillance programme for the Project Facilities and for handling and disposal of the residual inert matter and adopt appropriate measures and safeguards for security of the environment, life, and property at the Site(s).

16.4.8 The Concessionaire shall ensure that none of its employees, consultants, service providers, suppliers, or Sub-Contractors, including any O&M contractor appointed by the Concessionaire, shall engage in any corrupt, fraudulent, collusive, coercive or obstructive practice.

16.5. Rights and obligations of the Authority

16.5.1 During the O&M period, the Authority shall:

- comply with all its obligations under Applicable Laws (including, specifically the [Act applicable in the State] Act) and Authority Applicable Permits;
- monitor and review the operations and performance of the Project Facilities. This includes the right to access the Project Facilities, and review the records and reports that the Concessionaire is required to maintain, during normal working hours;
- review the Scheduled Maintenance Programme and all other plans and documents submitted by the Concessionaire in an expeditious manner, in accordance with this Agreement;
- ensure that the Escrow Account is funded with the Minimum Escrow Balance; and
- ensure that the Concessionaire continues to enjoy peaceful access to the Site(s) and shall not assign, transfer, or otherwise dispose of its rights, title, and interest in the Site(s) or create any Encumbrance over any part of the Site(s), which may adversely impact the exercise of the Concessionaire’s rights and duties under this Agreement.
- Make tipping fee payments in accordance with this Agreement;
- Ensure that the Escrow account is funded with the Minimum Escrow Balance

16.6. Utilities

16.6.1 The Concessionaire shall apply for and obtain the power connection (at the battery limit of

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the relevant Site(s)) for the operation of the Project Facilities, in its name, at least 30 (thirty) days prior to the Scheduled Construction Completion Date. The Concessionaire shall provide all necessary assistance to Authority in procuring the power connection, including by providing all documents and information necessary to complete the application process.

16.6.2 The Concessionaire shall install and maintain at its cost, all utilities (other than power) necessary for the O&M of the Project Facilities, including water, telephone connections, internet connections, etc. at the Site(s). The Authority shall only provide support for utilities like access roads, drainage, power, water as per Clause 4.1.2. (h). Specifically, to procure water for the O&M of the Project Facilities, the Concessionaire may dig bore wells at the Site(s) after obtaining all Applicable Permits (including any no-objection certificates from the Central Ground Water Authority or the relevant authority)

16.6.3 The Concessionaire shall not be entitled to any additional costs to comply with its obligations in Article 16.6.

16.6.4 Authority shall provide any reasonable assistance required by the Concessionaire to obtain the utilities for the O&M of the Project Facilities

16.7. Monitoring and Reporting

16.7.1 Online Monitoring and Meters

- At the Project Facilities Sites, the Concessionaire shall install and maintain an online monitoring system, in accordance with the Technical Specifications and Applicable Laws (including specifically, the EPA) to monitor the volume, specifications and characteristics of the incoming Solid Waste and ensure that the Project Facilities are capable of operating up to its design capacity on a daily basis. The online monitoring devices should be capable of measuring and analyzing the quantum and characteristics of the Solid Waste at the Processing facility and decentralized units and of the quantum and quality of disposables discharged from the Sites.
- Online monitoring system shall maintain a record for equipment's historical running information, status, faults, and any other parameters required to judge its conditions. Such monitoring shall be conducted in accordance with Applicable Laws and Good Industry Practices
- The Concessionaire shall record and transmit all data collected from the online monitoring systems and the meter reading of the grade, volume and characteristics of the incoming Solid Waste and the processed disposables. The Concessionaire shall furnish a summary report for the Project Facilities to Authority (with a copy to the Independent Engineer) on a daily basis, which shall indicate: (A) the quantum

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of the Solid Waste received at the relevant Project Facility(ies) and the quantum of the processed disposables including compost from the relevant Project Facility(ies) of the relevant day; and (B) the periods during which the quantum of Solid Waste received at the relevant Project Facility(ies)exceeded its design capacity.

- The Concessionaire shall also be required to upload the periodic reports from the online monitoring on the Central Pollution Control Boards website.
- The Concessionaire shall maintain the online monitoring systems and meters at its own cost and expense for the entire concession Period.
- At Project Facility (ies), the Concessionaire shall also install meters and gauges at the DG Sets to measure the total number of energy units (in kWh) consumed from the DG Sets in each month of the O&M Period.
- If the Concessionaire sets up a Waste to Energy Plant(s), then the Concessionaire shall install meters at the Waste to Energy Plant(s) to measure the total number of energy units (in kWh) generated from the Waste to Energy Plant(s) in each month of the O&M Period
- The meters shall be calibrated once every year during the O&M Period in accordance with Good Industry Practices and the meters shall be jointly tested by Authority and the Concessionaire to ensure the accuracy of the meters installed by the Concessionaire.

16.7.2 Records and Reporting Requirements

- The Concessionaire shall maintain:
  - records of the quantum and characteristics of the Solid Waste received at, and the processed disposables discharged from the Project Facilities; and
  - books of accounts recording all payments received from the Authority and other revenues derived/collected by it from the Project Facilities or resulting from its use, separately for each of the Project Facility and Site.
  - The Concessionaire shall provide to Authority, 2 (two) copies of its audited financial statements along with a report from its statutory auditors, within 90 (ninety) days ofthe close of each Financial Year.
  - For Project Facilities, the Concessionaire shall deliver to Authority, with a copy to the Independent Engineer, the following during the O&M Period within the specified timelines:
    - reports relating to any activity, problem, incident or circumstance that threatens or may threaten public health, safety, the environment or the safety and security

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of the Project Facilities, and any action taken to mitigate the effect of such incident or problem, as soon as reasonably practicable but no later than 12 (twelve) hours after the occurrence of such event or circumstance;

- reports on any critical breakdowns or failures in the Project Facilities, within 12 (twelve) hours of such occurrence;
- reports on accidents or other incidents in relation to the O&M personnel or any third party, along with statements on actions taken to minimise recurrence, within 2 (two) days of such occurrence;
- daily reports with the data collected from the monitoring and metering system, the online monitoring system and the tests conducted by the Concessionaire in accordance with Clause 15.9 on the characteristics and volume of Solid Waste treated at the Project Facilities, processed disposables discharged from the Project Facilities, at the end of each day (i.e., on or before [1500 hours] every day);
- monthly progress reports relating to the performance of O&M services (including on compliance with the KPIs, details of disposal or sale, as the case may be, of the processed disposables, and details of any Emergency during the relevant month), on or before the 7th (seventh) day of the following month. The monthly progress report must be certified by the Independent Engineer before it is submitted to Authority;
- copies of any reports, notices or responses submitted for compliance/noncompliance with Applicable Laws or Applicable Permits, within 2 (two) days of making such submissions to the relevant Government Authority; and
- reports on any material litigation, including any winding-up proceedings or notice to commence winding-up proceedings or material disputes to which the Concessionaire is a party, appointment of a receiver or administrator in relation to the business or assets of the Concessionaire and any adverse orders or judgments passed by any Government Authorities that affects or is likely to affect the performance of the O&M services, as soon as reasonably possible after the occurrence of any such event.
- It is clarified that the reports set out in this Clause 16.7 will be separately prepared and furnished for each of the Project Facilities.

16.8. Design Capacity Utilization

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16.8.1 During each day of the O&M Period, the Concessionaire shall ensure that Project Facilities can accept and process Solid Waste up to its design capacity.

16.8.2 The Concessionaire shall notify Authority (with a copy to the Independent Engineer) as soon as it becomes aware that the quantum of Solid Waste received at the relevant Project Facility is more than its design capacity.

16.8.3 In such circumstances, if the Concessionaire is unable to accept and process the excess Solid Waste (i.e., over and above the design capacity) at the relevant Project Facility, then such failure shall be treated as a Forced Unavailability for which the Concessionaire shall not be liable, subject to the Concessionaire having notified Authority in accordance with Article 16.8.2 above. Authority reserves the right to require the Independent Engineer to verify the capacity utilization at any Project Facility, at any time during the O&M Period.

16.9. Maintenance and Repair of the Project Facilities

16.9.1 During the O&M Period, the Concessionaire shall, at its own cost, undertake the maintenance of the Project Facilities and repair any damage to the Project Facilities either by itself, or through an approved Sub-Contractor, such that the Project Facilities shall be:

- in good working condition (subject only to wear and tear and Force Majeure) and achieve their full useful economic life in accordance with the Designs and Drawings;
- maintained in compliance with the Technical Specifications, O&M Manual, Scheduled Maintenance Programme, Applicable Laws, Applicable Permits, Good Industry Practice and the recommendations of the technology providers;
- capable of meeting the KPIs as per Article 19.

16.9.2 For the first year of the O&M Period, the Concessionaire shall submit its scheduled maintenance programme for the Project Facilities, specifying the Scheduled Maintenance periods for the Project Facilities and the impact of such Scheduled Maintenance periods on the Availability of each of the Project Facility (the "Scheduled Maintenance Programme") to the Authority at least 1 (one) month before the Scheduled COD and for every subsequent year of the O&M Period, the Concessionaire shall submit the Scheduled Maintenance Programme, at least 1 (one) month prior to the beginning of the relevant year. The Scheduled Maintenance Programme for the first year will cover the period from the COD until the end of the calendar year in which the COD occurs. It is clarified that the Concessionaire shall submit a consolidated Scheduled Maintenance Programme for the Project Facilities.

16.9.3 Within 15 (fifteen) days of receipt of the Scheduled Maintenance Programme, Authority

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shall notify the Concessionaire of its approval of such schedule.

If Authority does not accept any one or more of the requested Scheduled Maintenance periods or its impact on the Availability of a Project Facilities, Authority shall advise the Concessionaire within 15 (fifteen) days of the receipt of the Scheduled Maintenance Programme on when any Scheduled Maintenance can be rescheduled or how its impact on the Availability of a Project Facilities may be minimized. The rescheduled time shall be as close as reasonably practicable to the requested time and shall be of equal duration as the requested period. If Authority fails to object to any Scheduled Maintenance within the specified time period or fails to advise the Concessionaire of a substitute time, the Concessionaire may schedule the Scheduled Maintenance for such duration and at such time as initially requested.

- Notwithstanding the finalization of the Scheduled Maintenance Programme pursuant to this Article 15.9, Authority may require the Concessionaire to reschedule a Scheduled Maintenance in the Scheduled Maintenance Programme, provided that:
- Authority has given the Concessionaire at least 30 (thirty) days‟ prior
- written notice of such re-scheduling;
- Authority shall not require such Scheduled Maintenance to be rescheduled for a period of shorter or longer duration;
- Authority shall not require that a single Scheduled Maintenance period be split into two or more periods; and
- Authority shall not require that a Scheduled Maintenance be brought forward any earlier than 15 (fifteen) days from the date of such notice without the consent of the Concessionaire.
- Notwithstanding the finalization of the Scheduled Maintenance Programme pursuant to this Clause 15.9, the Concessionaire may request a rescheduling of any Scheduled Maintenance upon 60 (sixty) days‟ prior written notice to Authority. Authority shall respond to such request within 10 (ten) days and shall not unreasonably withhold its permission for such re-scheduling.
- Within 5 (five) days of any re-scheduling of a Scheduled Maintenance, as may be approved by the Authority, the Concessionaire shall provide to Authority, the amended Scheduled Maintenance Programme, which shall then be the “Scheduled Maintenance Programme”.
- During the O&M Period, the Concessionaire shall, at its own cost, replace any

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component or part of the Project Facilities that is damaged or worn out or in the Concessionaires judgment becomes no longer practicable to repair as a result of normal wear and tear.

- If at any time during the O&M Period, a Project Facilities is damaged by a Minor Casualty, the Concessionaire shall, with reasonable diligence, proceed to process the claim with insurance providers and at its own cost, repair, replace, and restore the damaged portion of the Project Facilities to the same condition that it was in before the occurrence of such Minor Casualty. To the extent available, insurance proceeds shall be applied to such repair, replacement or restoration.

If at any time during the O&M Period, a Project Facilities is damaged by a Total Casualty, then this Agreement shall be terminable at the option of the Concessionaire. If the Concessionaire elects to terminate the Agreement, then the consequences set out in Article 24 will follow. If, however, the Concessionaire elects not to terminate the Agreement, then the Concessionaire shall repair, replace and restore the damaged Project Facilities to the same condition that it was in before the occurrence of such Total Casualty. To the extent available, insurance proceeds shall be applied to such repair, replacement or restoration.

16.10. Remedial measures

If after the COD, the Concessionaire ceases to operate Project Facilities for a period of 48 (forty eight) consecutive hours other than due to a Forced Unavailability, Scheduled Maintenance, or a suspension pursuant to Article 21, which is not attributable to the Concessionaire, or a Force Majeure Event, without the prior written consent of Authority, then Authority shall be entitled to step-in and undertake O&M of such Project Facilities until the Concessionaire demonstrates to the satisfaction of Authority that it can and will resume normal operation and maintenance of the Project Facilities. The exercise of Authority's rights under this Article 15.10 shall be at the cost, risk and expense of the Concessionaire. The Concessionaire shall not be entitled to receive any O&M Charges for the duration that Authority steps-in to operate and maintain the Project Facilities.

16.11. O&M Personnel

16.11.1 The Concessionaire shall engage (either directly or through an approved Sub- Contractor) adequate number of suitably skilled and qualified personnel to undertake the O&M of the Project Facilities in accordance with the requirements set out in this Article 15.

16.11.2 The Concessionaire shall be solely responsible for discharging all obligations in connection with the employment of the O&M personnel, including the payment of wages, salaries,

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Taxes, and retrenchment compensation and providing all amenities and benefits required under applicable laws.

16.11.3 Subject to compliance with the Applicable Laws, the Concessionaire shall have full freedom to determine its internal human resources (HR) policies, including, the wages, benefits and salary structure of its employees, the conditions of service, the sshifts of work, its hire and fire policy (whether for misconduct or other cause), and payment of severance or retrenchment compensation.

16.11.4 Authority is not and shall not be treated as the "principal employer" of or be deemed to have any contractual or other relationship with the O&M personnel. The Concessionaire shall hold harmless and indemnify Authority against all losses, claims, costs and damages that Authority may suffer due to the Concessionaire's or any of its Sub-Contractor's failure to comply with Applicable Laws.

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ARTICLE 17 : MONITORING AND INSPECTION

17.1. During Pre-COD Period

17.1.1 Monthly Progress Reports

During the Pre-COD Period, the Concessionaire shall, not later than 7 (seven) days after the close of each month, furnish to the Independent Engineer, a monthly report bringing out in detail the progress made by the Concessionaire and also organise monthly review meetings with respect to its Scope of Work, including *inter-alia* the Processing facility (including the power plant, if any), Project Facilities and any such information as may be considered essential by the Independent Engineer.

17.1.2 Inspection

During the Pre-COD Period, the Independent Engineer shall inspect or cause to be inspected the Project Facilities at least [once a month] or at such shorter intervals as may be considered essential by the Independent Engineer and make report of such inspection (the **"Pre-COD Inspection Report"**) stating in reasonable detail the delay or deficiencies, if any, with particular reference to the Scope of Work, specifications, Good Industry Practices, and Applicable Laws.

It shall send a copy of such a Report to the Concessionaire within 2 (two) days of such inspection/ observation and upon receipt thereof, the Concessionaire shall rectify and remedy the observations, if any, stated in the Inspection Report. Provided however, such inspection or submission of Inspection Report by the Independent Engineer shall not relieve or absolve the Concessionaire of its obligations and liabilities hereunder in any manner whatsoever.

17.1.3 Tests

For determining that the Project Facilities conform to the specifications and requirements of this Agreement, the Independent Engineer shall require the Concessionaire to carry out or cause to be carried out tests, at such time and frequency and in such manner as may be specified by the Independent Engineer/the Authority from time to time, in accordance with Good Industry Practice for quality assurance. The Concessionaire shall, with due diligence, carry out or cause to be carried out all the tests in accordance with the instructions of the Independent Engineer and furnish the results thereof to the Independent Engineer. For the avoidance of doubt, the costs to be incurred on any such test undertaken shall be borne solely by the Concessionaire. In the event that results of any tests conducted under this Article 17.1.3 above establish any defects or deficiencies in the works, the Concessionaire shall carry out remedial measures and furnish a report to the Independent Engineer in this

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behalf. For the avoidance of doubt, it is agreed that tests pursuant to this Article 17.1.3 shall be undertaken in addition to and independent of the tests that shall be carried out by the Concessionaire for its own quality assurance in accordance with Good Industry Practice. It is also agreed that a copy of the results of such tests should be sent by the Concessionaire to the Independent Engineer forthwith.

17.2. Post-COD period

17.2.1 Monthly Status Reports

During Post-COD Period, the Concessionaire shall, not later than 7 (seven) days after the close of each month, furnish to the Independent Engineer a monthly report stating in reasonable detail the condition of the Project including its compliance or otherwise with the Maintenance Requirements, the quantity of Waste Transported, processed and Disposed and shall promptly give such other relevant information as may be required by the Independent Engineer. In particular, such a report shall separately identify and state in reasonable detail the defects and deficiencies that require rectification.

17.2.2 Inspection

17.2.3 The Independent Engineer shall inspect or cause to be inspected the execution of the Project at least [once a month]. It shall make a report of such inspection (the "Post- COD Inspection Report") stating in reasonable detail the defects or deficiencies, if any, with reference to the Maintenance Requirements, maintenance manual, KPIs or requirements as set forth in this Agreement including Schedules/ Schedules, and send a copy thereof to the Concessionaire within 7 (seven) days of such inspection and upon receipt thereof, the Concessionaire shall rectify and remedy the defects or deficiencies, if any, stated in the Post-COD Inspection Report. Such inspection or submission of Post-COD Inspection Report by the Independent Engineer shall not relieve or absolve the Concessionaire of its obligations and liabilities hereunder in any manner whatsoever.

17.2.4 Remedial measures

- The Concessionaire shall repair or rectify the defects or deficiencies, which have impact on the operations/ efficiency of the Project, if any, set forth in the Post-COD Inspection Report and furnish a report in respect thereof to the Independent Engineer within 15 (fifteen) days of receiving the Post-COD Inspection Report; provided that where the remedying of such defects or deficiencies is likely to take more than 15 (fifteen) days, the Concessionaire shall submit progress reports to the Independent Engineer of the repair works [once every week] until such works are completed in conformity with this Agreement.

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- In the event that remedial measures are not completed by the Concessionaire in conformity with the provisions of this Agreement, the Independent Engineer/ the Authority shall be entitled to recover Damages from the Concessionaire at the rate of [0.1% (zero-point one percent)] of Performance Security for each day of delay beyond the period specified for rectification of such defect or deficiency by the Independent Engineer/the Authority.

17.2.5 Authority's right to take remedial measures

- In the event the Concessionaire does not maintain and/or repair the Project Facilities/ Project Assets or any part thereof in conformity with the Maintenance Requirements, maintenance manual or KPI or requirements as set forth in this Agreement including Schedules/ Schedules, and fails to commence remedial works within 15 (fifteen) days of receipt of Post-COD Inspection Report or notice in this behalf from the Authority, the Authority shall, without prejudice to its right under this Agreement including termination thereof, be entitled to undertake such remedial measures at the risk and cost of the Concessionaire, and to recover its cost from the Concessionaire. In addition to recovery of the aforesaid cost, an additional sum equal to [10% (ten percent)] of such cost shall be paid by the Concessionaire to the Authority as damages.

- The Authority shall have the right, and the Concessionaire hereby expressly grants to the Authority the right, to recover the costs and Damages specified in this Article directly from the Escrow Account, and for that purpose, the Concessionaire hereby agrees to give irrevocable instructions to the Escrow Bank to make payment from the Escrow Account in accordance with the instructions of the Authority under this Article. Any demand from the Authority stating that a specified amount is payable shall be final, binding and conclusive on the Concessionaire and Escrow Bank and Escrow Bank shall pay and Concessionaire shall cause the Escrow Bank to pay such amount without any demur, delay, cavil or protest on receiving a demand for such costs and Damages.

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ARTICLE 18 : PAYMENTS

18.1. Payment during Concession Period

Subject to the provisions of this Agreement and in consideration of the Concessionaire accepting the Concession and undertaking to perform and discharge its obligations in accordance with the terms, conditions and covenants set forth in this Agreement, the Authority agrees and undertakes to pay Tipping Fee for each Ton of MSW Transported and Processed to the Concessionaire as per this Article.

The capital investment must be done fully by the Concessionaire from their own financing sources. As per the RFP conditions there shall not be any financial support in any manner by either by the Authority, beyond the payment of tipping fees.

18.1.1 Bid Project Cost: NOT APPLICABLE

18.1.2 Adjusted Bid Project Cost: NOT APPLICABLE

18.1.3 Payment of Bid Project Cost: NOT APPLICABLE

18.1.4 Payment during Construction Period: NOT APPLICABLE

18.1.5 Bonus on early completion: NOT APPLICABLE

18.1.6 Payment During Operation & Maintenance:

- **Tipping Fee Amount:**

The following Tipping Fee rate per Metric Ton has been accepted during the Agreement for the entire Project (including Secondary Transport and Processing and Disposal (P&D)) ("Overall Tipping Fee"). The same shall be paid on a per Ton basis for the first year after COD, distributed across Secondary C&T and P&D. The Tipping Fee rate shall be escalated at the rate of 5 per cent year-on-year, every year after the 1st year post COD.

Item	ACCEPTED RATE FOR TIPPING FEE (for the 1st Year after COD)	
Overall Tipping Fee	**Per Metric Ton Rate**	_____
Secondary Transportation Tipping Fee	50% of the Accepted Overall Tipping Fee	
P&D Tipping Fee	50% of the Accepted Overall Tipping Fee	

The proportion of the Overall Tipping Fee determined towards Secondary Transportation: Processing & Disposal is 50:50. That is, if the Overall Tipping Fee is Rs. 100/TPD,

- the Tipping Fee towards the scope of work of Secondary Transportation, as defined in Article 2 and this Agreement, shall be thereafter defined as 50% of the same (i.e.,

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Rs 50/TPD) ("Secondary Transportation Tipping Fee"), and

- the Tipping Fee towards the scope of work of Processing & Disposal, as defined in Article 2 and this Agreement, shall thereafter be defined as 50% of the same (i.e., Rs.50/TPD) ("P&D Tipping Fee"),
- Such that Overall Tipping Fee = Secondary Transportation Fee + P&D Tipping Fee.

The above quoted rates are inclusive of all taxes, duties and levies, but excluding GST which will be paid by the authority at actual as per prevailing norms and rate if applicable during the entire concession period.

- **Distribution of Tipping Fee Payable & Penalties**
  - The tipping fee shall be paid in 2 Tranches.
    - **Secondary Transportation Tipping Fee:**
  - Tranche 1 (Fixed Tipping Fee): 60% of the payment shall be processed as soon the invoice is submitted by the Concessionaire.
  - Tranche 2 (Variable Tipping Fee): Balance 40% of the payment shall be released after (a) verifying the actual quantities based on online tracking and weighment mechanism and (b) after deduction of penalties due to non-adherence of KPIs as per Article 19.
    - **P&D Tipping Fee:**
  - Tranche 1 (Fixed Tipping Fee): 60% of the payment shall be processed as soon the invoice is submitted by the Concessionaire.
  - Tranche 2 (Variable Tipping Fee): Balance 40% of the payment shall be released after (a) verifying the actual quantities processed at the ISWM facility based on input weighment, the quantity of inerts disposed, random checking and certified by the independent engineer and (b) after deduction of penalties due to non-adherence of KPIs as per Article 19.
- **Mechanism of Payment**
  - All payments to the Concessionaire by Authority shall be made by way of Account transfer.
  - Authority shall deduct/ withhold the Statutory deductions, such as Income Tax, any penalties for operational breaches, which is determined to be due and payable, as specified in Article 18 and 19, and any other recoveries under the terms of this Agreement.
  - To facilitate the payment of Tipping Fee to the Concessionaire, the Concessionaire,

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the Authority and a reputable Bank, acceptable to the Concessionaire, hereby referred to as "Escrow Agent", shall enter into an agreement for the opening and operation of Escrow Account, hereby referred to as "Escrow Agreement", as per the Schedule 17: Escrow Agreement;

- The Authority or Authority of Karnataka (GOK) shall deposit an amount equal to the estimated Tipping Fee Payment for 3 (three) months, calculated based on the estimated monthly waste to be managed for three months as specified in the DPR to be prepared by the Concessionaire multiplied by the relevant Tipping Fee per tonne, in the Escrow Account within 15 (fifteen) days of signing of the Escrow Agreement.
- The Authority shall replenish the Escrow Account with Replenishment Amount within 15(fifteen) days, or the following working day in case the 15th day is a holiday, of the Replenishment Request from the Authority and subsequently the Escrow Agent shall intimate the Concessionaire for the same.
- In the event, the Authority fails to replenish the amount within the stipulated time, the Concessionaire shall send a written request ("Urgent Replenishment"), to the Authority to replenish the Escrow Account within 7 days, or the following working day in case the 7th day is a holiday, of such a request.

- **Payment of Tipping Fee:**

- The Concessionaire shall, on the 7th day of every Month or in case the 7th day of a Month is a holiday then on the following working day of such Month, submit to the Independent Engineer an Invoice statement (—Tipping Fee Statement) providing the following details, in the manner as set out in the O&M Requirements:
  - Separate Statement of total quantity/weight of Municipal Solid Waste undertaken for Secondary Transportation to processing site(s) by the concessionaire along with the corresponding weigh bridge slips in the previous Month from the Authority's Jurisdiction Area including other such areas as directed by the Authority from time to time
  - Separate Statement of total quantity/weight of Municipal Solid Waste processed at the processing site by the concessionaire along with the corresponding weigh bridge slips in the previous Month from the Authority's Jurisdiction Area including other such areas as directed by the Authority from time to time
  - Amount payable, if any, to the Concessionaire by the Authority in accordance with Article 19, distributed into Tranche 1 and Tranche 2, and across Secondary Transportation and P&D.

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- Quantity of Landfill Waste on each day of the previous Month along with Weigh Bridge slips.
- Aggregate quantity of Landfill Waste for the previous Month

- Any Invoice raised by the Concessionaire for O&M Payments shall be accompanied with a copy of the: (A) KPI adherence report for [the month], duly certified by the Independent Engineer; (B) copy of the bill(s) and invoices certified by the Independent Engineer; and (C) daily weights sheets of the electronic weighbridge installed at the entrance of the Existing Processing Facilities Site/Transfer Stations, duly verified and approved by the Independent Engineer. If the Invoice is not accompanied with the supporting documents specified at (A), (B) and (C) above, the Authority shall not be required to process such Invoice.
- The Independent Engineer shall review and certify the Tipping Fee Statement of the month, the statement of MSW quantum handled from the Project jurisdiction area and support documents submitted by the Concessionaire. The Independent Engineer shall submit to the Authority an invoice statement of the amount payable for the month along with the original monthly bill and all the supporting documents submitted by the Concessionaire basis their evaluation. The same shall be done in two parts: for the amount pertaining to Tranche 1 payments, the Independent Engineer should process and recommend within 7 working days of the receipt of the Tipping Fee Statement from the Concessionaire, and within 21 days for the Tranche 2 of the Payment. The Independent Engineer shall also ascertain the amount of tipping fees to be withheld as per provision of Article 19.
- Within 7(seven) working days of receipt of an invoice from the Independent Engineer, Authority shall either:
  - approve the Invoice and issue a Payment Certificate to the Escrow Bank with a copy to the Authority and the Concessionaire, conveying its approval for the release of the amount specified in the Invoice, less any necessary deductions or adjustments in accordance with this Agreement and/or Applicable Laws (including any statutory dues); or
  - issue a notice to the Concessionaire disputing the Invoice and directing the Concessionaire to issue a revised Invoice, after rectifying the errors or discrepancies identified by the Authority.
- The Concessionaire shall submit a revised Invoice to the Authority, revalidated and certified by the Independent Engineer, after rectifying the errors or discrepancies identified by the Authority and this process will be repeated until the Authority approves the Invoice and issues a certificate to the Escrow Bank, with a copy to the

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Authority and the Concessionaire, conveying its approval for release of the amount specified in the Invoice.

- Any dispute between the Parties in relation to a disputed Invoice will be settled in accordance with Article 27.
- If, within such time, Authority does not dispute an Invoice, then the Invoice shall be deemed to have been accepted by the Authority, and the Concessionaire may issue instructions to the Escrow Bank with a copy to The Authority , to release the amounts specified in the Invoice, upon the expiry of the 10 (ten) day period.
- Immediately upon receipt of a Payment Certificate or upon receipt of instructions from the Concessionaire the Escrow Bank shall release the amount specified in the Payment Certificate or if no Payment Certificate has been issued, then the amount specified in the relevant Invoice, in accordance with the Escrow Agreement.
- Notwithstanding anything to the contrary in this Agreement, the Authority shall have no obligation to issue a Payment Certificate unless:
  - the O&M Securities remain valid and in effect
  - the insurances to be obtained by the Concessionaire in accordance with Article 28 are valid and in effect;
  - the Concessionaire Applicable Permits for MSW of the Project Facilities are in full force and effect, unless the withdrawal or cancellation of any Applicable Permit is not attributable to the Concessionaire's failure to comply with Applicable Laws;
  - the Concessionaire has complied with the ESHS Documents in undertaking the MSW of the Facilities; and
  - there is no subsisting Concessionaire Event of Default.

18.2. Escrow Account

- Prior to the COD Date, the Concessionaire, the Authority and the Escrow Bank shall enter into the Escrow Agreement and the Concessionaire shall open the Escrow Account with the Escrow Bank in accordance with the Escrow Agreement, which shall be operational until the expiry of the Concession Period. The Escrow Agreement shall set out the terms of appointment of the Escrow Bank and terms of withdrawal of amounts from the Escrow Account on monthly basis.
- Minimum Escrow Balance: At all times, to maintain the minimum balance in the Escrow Account (the “Minimum Escrow Balance”):

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- On and from the COD until Termination Date, the Authority shall deposit the O&M Payments in the Escrow Account such that the Escrow Account is funded at all times, the O&M Charges as tipping fees, the Authority shall be entitled to withdraw amounts from the Escrow Account in accordance with the provisions of this Agreement and the Escrow Agreement.

If at any time during the O&M Period, the balance in the Escrow Account falls below the Minimum Escrow Balance, the Authority shall promptly, and in any event, no later than 90 (ninety) days, fund the Escrow Account such that the Minimum Escrow Balance is maintained. A failure to maintain the Minimum Escrow Balance for 90 (ninety) days would be treated as an Authority Event of Default and the consequences set out in Article 24 would follow.

It is clarified that any interest earned on the amounts deposited by the the Authority in the Escrow Account will be counted towards the Minimum Escrow Balance.

- The Concessionaire shall be entitled to withdraw amounts from the Escrow Account in accordance with the provisions of this Agreement and the Escrow Agreement.

18.3. Taxes

- The Concessionaire is fully responsible for payment of Construction and O&M taxes, applicable cess & levies.
- the Authority may deduct from the O&M Payments and any other amounts due to the Concessionaire, any income tax or withholding tax that is required to be deducted at source.
- The Concessionaire shall be responsible for payment of all applicable Taxes, including all procedural compliances related to the payment of Taxes pursuant to this agreement, and shall be solely responsible for any proceedings initiated by any Authority, in respect of any non-payment or short-payment of Taxes.
- Upon a request from the Concessionaire and the Authority will provide all relevant certificates and information to enable the Concessionaire to obtain any Tax exemptions available in relation to the Project. It is clarified that the Authority shall not be responsible in any manner for ensuring that any applicable Tax exemptions are available to the Concessionaire.
- The Concessionaire shall indemnify the Authority from and against any cost or liability that may arise due to the Concessionaire's failure to pay all applicable Taxes, in connection with the Project.

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18.4. Default Interest:

Upon any Party's failure to make a payment due and payable by it on the due date for such payment, the defaulting Party shall be liable to pay default interest on all such outstanding amounts at the prevailing 1-year SBI MCLR + 3% (three per cent) per annum or part thereof, if the delay period exceeds 90 days. This is without prejudice to any Party's right to terminate this Agreement in accordance with Article 23 or any other right or remedy available to it under this Agreement or Applicable Laws. For the avoidance of doubt, it is hereby clarified that the Authority shall be liable to pay interest on delayed payments of tipping fees to the Concessionaire if more than 90 days have elapsed since the recommendation for payment received from the Independent Engineer.

18.5. Disputed Amounts

- The Parties shall, within [10 (ten)] days of receiving the amount due and payable to it, shall notify the other Party of the disputed amounts along with details thereof (the "Disputed Amounts"). Within [7 (seven)] days of receiving such notice, the defending Party shall present any information or evidence as may be reasonably required for determining that such Disputed Amounts are not payable. The Parties may, if necessary, meet a representative of the other Party for resolving the dispute and in the event that the dispute is not resolved the Dispute Resolution Procedure in accordance with Article 27 shall apply.
- If any amount is payable by either Party upon determination of a dispute regarding any Disputed Amount such amount shall be deemed to be payable on the date when it first became due and interest for the period of delay shall be due and payable at the rate specified in Article18.

18.6. Set-off: NOT APPLICABLE

18.7. Power Tariff: NOT APPLICABLE

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ARTICLE 19 : KEY PERFORMANCE INDICATORS

19.1. Key Performance Indicators

19.1.1 For Secondary Transportation

- **Availability of Vehicles**: This Key Performance Indicator (KPI) refers to the percentage of the secondary transport vehicle fleet that is operational and ready for service at any given time. By maintaining high availability, the downtime of vehicles is reduced, thereby maximizing overall asset utilization. Ensuring a sufficient number of vehicles are readily available directly supports efficient waste collection, transport, and disposal activities. All secondary transport vehicles—including hookloaders, containers, and other relevant assets—are required to be equipped with operational GPS and RFID technology to be considered Available. This measure enhances vehicle tracking, compliance, and governance by allowing real-time monitoring of their movements. Such a requirement promotes accountability in service delivery and optimizes logistics management.

- **Assured Quantity Transported to Existing Commitments**: This KPI ensures that the prescribed volume of waste is consistently transported to facilities or disposal sites in line with established contractual or regulatory obligations. By fulfilling these commitments, the authority demonstrates reliable service provisioning, maintains public trust, and aligns with all relevant regulations and stakeholder agreements.

- **Transportation Done from Dry Waste Collection Centers (DWCCs)**: This KPI focuses on quantifying and monitoring the amount of waste awaiting transport at designated DWCCs. Through regular scheduling and oversight, the accumulation of waste at these centers is prevented. Prompt and consistent collection from DWCCs upholds cleanliness standards, fosters environmental responsibility, and maintains smooth downstream operations.

- **Throughput at the Transfer Station**: This KPI measures the proportion of waste that is forwarded from the Transfer Station relative to the total volume of waste received. A high throughput percentage indicates that waste is moved promptly and does not linger at the facility, reducing the risk of operational backlogs. Ensuring minimal buildup of waste is essential for maintaining hygienic conditions and optimizing resource utilization.

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- **Availability of Transfer Stations**: This KPI gauges the number of Transfer Stations that are functioning at or above their designed capacity, with the capability to accept and process incoming waste. By keeping these facilities fully operational, the authority ensures steady waste management services, upholds regulatory obligations, and maintains overall system resilience.
- **Waste Segregation**: This KPI emphasizes the need to preserve the integrity of source-separated waste. It stipulates that different waste fractions must not be mixed during handling and that no additional segregation should be performed at the Transfer Station. Upholding segregation standards safeguards facility cleanliness, prevents cross-contamination, and aligns with sustainable waste management practices.

19.1.2 For Processing & Disposal

- **Availability of Plant Facilities:** This Key Performance Indicator (KPI) measures the percentage of time the facility is capable of receiving and processing waste at or near its design capacity. By maintaining a high availability rate, downtime is reduced and asset utilization is optimized. Reliable facility availability underpins efficient waste management and prevents accumulation or backlog of materials.
- **Extent of Recovery:** This KPI tracks the percentage of incoming waste that is actually processed—whether recycled, reused, or otherwise diverted—relative to the total waste received. Monitoring recovery rates ensures the facility is performing as intended, moving materials effectively, and minimizing the volume of residual waste.
- **Output Efficiency:** This KPI represents the ratio of useful outputs—such as recyclables or Refuse-Derived Fuel (RDF)—to the total amount of waste processed at the plant. A higher output efficiency indicates an effective conversion process and demonstrates the facility's ability to add value by recovering resources while reducing final disposal requirements.
- **Waste Landfilled:** This KPI indicates the percentage of total input waste sent to landfill after all possible recovery, reuse, or conversion processes have been applied. Keeping this figure low is essential to minimize environmental impacts, maximize resource recovery, and uphold sustainable waste management practices.
- **Quality of Disposed Waste:** This KPI examines whether the residual waste going to landfill meets the required environmental standards—confirming that the material is inert, non-combustible, and safe. Ensuring compliance limits the risk of pollution and reinforces the facility's long-

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term environmental responsibility.

- **Liquid Discharge:** This KPI addresses the volume and composition of liquid effluents released from the facility. Effective monitoring and treatment of these discharges protect local water bodies, ensure adherence to water management norms, and promote a safe environment for the community.
- **Environmental Compliance**: This KPI tracks the facility's overall emissions to ensure that it stays within prescribed pollution control limits. Compliance demonstrates responsible environmental stewardship and supports the well-being of surrounding communities.

19.2. Schedule of Penalties:

- The following table lays out an example of the distribution of Tipping Fee into Fixed Tipping Fee (Tranche 1) and Variable Tipping Fee (Tranche 2).

Tipping fee approved	Secondary Transport : P&D	Segment-wise Tipping fee	Gross Tipping Fee (without accounting for penalties)	Tipping Fee payable
Total Tipping Fee approved = TFA = 100X (Bid amount + 5% escalation p.a.)	Secondary Tipping Fee approved = TFA1 = 50X	Fixed Tipping Fee approved = FTFA1 = 30X	FTP1 = 30X*Transport Weight	FTP1
		Variable Tipping Fee approved = VTFA1 = 20X	VTP1 = 20X*Transport Weight	VTP1 minus penalties as per Table 19.2 (a)
	P&D Tipping Fee approved = TFA2 = 50X	Fixed Tipping Fee approved = FTFA2 = 30X	FTP2 = 30X*P&D Weight	FTP2
		Variable Tipping Fee approved = VTFA2 = 20X	VTP2 = 20X*P&D Weight	VTP2 minus penalties as per Table 19.2 (b)

- The Tables 19.2 (a) and 19.2 (b) lay out the Penalty structure for non-compliance with the KPIs as mentioned in the Clause 19.1, for Secondary Transportation and Processing & Disposal parts of the scope respectively.
- **Payment Dockers:**

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In addition to the KPIs laid out in Tables 19.2(a) and (b), three criteria shall act as dockers for the payment of Tipping Fee:

- Report of wages paid to manpower must be submitted every month with the invoice; if previous month's wages are due for more than 75% personnel, no payment shall be processed till they are cleared. (Tranche 1 as well as Tranche 2, for both Secondary Transport and P&D).
- If in any month, the amount of waste processed by the Concessionaire is less than 75% of the waste received by the Concessionaire for Secondary Transportation at the Transfer Stations (deducting the waste delivered to the Pre-existing commitments of the Authority) in that month, the Variable Tipping Fee for Secondary Transportation shall not be paid in that month, irrespective of the KPIs.
- If in any month, the amount of waste processed by the Concessionaire is less than 75% of the waste delivered to the Project Site in that month, the Variable Tipping Fee for Processing & Disposal shall not be paid in that month, irrespective of the KPIs.

Table 19.2 (a) KPIs for Secondary Transportation and their Weightage in Tranche 2 Payments

Sr.	KPI	Definition	Reason for inclusion	Level of measurement	Performance Indicator	Benchmark / Target	% Weightage	Penalty calculation method
Secondary Transport Vehicles								
1	**Availability of Vehicles**	All vehicles available (must have GPS/RFID technology in operational condition to be counted)	Reduces fleet downtime and maximizes asset utilization	Avg of all vehicles	Avg. (No. of days that each vehicle has downtime in a month)	<5%	25%	<Benchmark % = Nil >Benchmark % = (Performance %– Benchmark%)* VTP1 for that month*KPI weightage
Transportation								
2	**Assured qty transported to existing commitments**	Assured waste to be delivered to existing commitments	Ensure existing commitments are met	Project Level	Amount of waste transported to existing plants as a % of assured quantity across plants in a month	>95%	20%	>Benchmark % = Nil <Benchmark % = (Benchmark% - Performance %) *VTP1 for that month*KPI weightage
3	**Transportation done from DWCCs**	Amount of waste accumulated at DWCCs	Ensure regular visits from DWCCs	Project Level	% DWCCs in the Package with >2 Ton waste accumulated in the	<5%	10%	<Benchmark % = Nil >Benchmark % = (Performance %–

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Table 19.2 (a) KPIs for Secondary Transportation and their Weightage in Tranche 2 Payments

Sr.	KPI	Definition	Reason for inclusion	Level of measurement	Performance Indicator	Benchmark / Target	% Weightage	Penalty calculation method
					DWCC for more than three days			Benchmark%)* VTP1 for that month*KPI weightage
Transfer Station								
4	**Throughput**	Waste transported from the Transfer Station as a % of Waste received	Ensure waste is not getting accumulated at the Transfer Station	Avg of all Transfer Stations	Avg across all Transfer Stations (Amount of waste transported out as a % of quantity received at the transfer station) on a monthly basis	>90%	20%	>Benchmark % = Nil <Benchmark % = (Benchmark% - Performance %) *VTP1 for that month*KPI weightage
5	**Availability**	No. of transfer stations operating as per designed capacity and able to accept and process waste	Ensure uptime of Transfer Stations	Project Level	% Transfer stations not operational for more than 1 week in a month	<5%	15%	<Benchmark % = Nil >Benchmark % = (Performance %– Benchmark%)* VTP1 for that month*KPI weightage
6	**Waste Segregation**	Segregated waste must not be mixed together and waste must not be segregated at the Transfer Station	Ensure source segregation is not reversed, and facility is clean	Project Level	No. of days of non-compliance	0	10%	= (No. of days of non-compliance)/30*VTP1 for that month*KPI weightage
							100%	

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Table 19.2 (b) KPIs for Processing & Disposal and their Weightage in Tranche 2 Payments

Sr.	KPI	Definition	Reason for inclusion	Level of measurement	Performance Indicator	Benchmark / Target	% Weightage	Penalty Calculation method
Plant Operations								
1	**Availability of Plant facilities**	% duration that the Facility is available to accept/process waste at or near design capacity.	Reduces plant downtime and maximizes asset utilization	Project level	Avg. (No. of days that each facility has downtime in a month)	<10%	15%	<Benchmark % = Nil >Benchmark % = (Performance %– Benchmark%)* VTP2 for that month*KPI weightage
2	**Extent of recovery**	Waste processed as a % of received waste	Ensures throughput of the facility is on track and waste is being processed	Project level	(Total waste input into processing facilities)/(Waste received) in the month	>95%	20%	>Benchmark % = Nil <Benchmark % = (Benchmark% - Performance %) *VTP1 for that month*KPI weightage
3	**Output efficiency**	Ratio of useful output (e.g., recyclables, RDF) to total input waste, per facility.	Tracks efficiency of waste-to-output conversion.	Facility level	Facility's useful output / total input waste in the month	>80% of the declared efficiency in the Operations Plan	20%	>Benchmark % = Nil <Benchmark % = (Benchmark% - Performance %) *VTP1 for that month*KPI weightage Performance to be calculated to a weighted avg basis across facilities basis their capacity
Landfill								
4	**Waste landfilled**	% of total input waste that is sent to landfill (i.e.,	Encourages minimum waste to landfill and	Project level	% waste landfilled / total input waste in the month	<20% of incoming waste every month	20%	<Benchmark % = Nil

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Table 19.2 (b) KPIs for Processing & Disposal and their Weightage in Tranche 2 Payments

Sr.	KPI	Definition	Reason for inclusion	Level of measurement	Performance Indicator	Benchmark / Target	% Weightage	Penalty Calculation method
		recovered, reused, or converted).	maximizes value recovery.					>Benchmark % = (Performance %– Benchmark%)* VTP2 for that month*KPI weightage
5	**Quality of disposed waste**	Compliance of reject material with environmental standards (non-combustible, inert, safe).	Ensures safe landfill practices and avoids pollution.	Project level	% Carbon content in the landfill samples collected and analyzed in the month	Combustible matter must be <3% in total residual inert matter every month	10%	= Percent of sample in this range* E*VTP2 for that month*KPI weightage E = 1.5 for upto 5% deviation, 2 for more than 5% deviation
Environment and safety								
6	**Liquid Discharge**	Liquid discharge from facility	Prevents contamination of local water bodies and utilization of LTP	Project level	# of instance of liquid discharged from the facility	Zero Liquid Discharge (ZLD) is mandatory	10%	= 1L/day for first instance of a month - 2L/day for second, 5L/day for third Threshold: VTP2 for that month*KPI weightage (if passed, double amount)
7	**Environmental Compliance**	Emissions from the facility must comply with pollution control norms.	Ensures environmental compliance and minimizes air pollution.	Project level	Deviation from Environmental Monitoring Parameters	0%	5%	= INR 5L per instance Threshold:VTP2 of that month*KPI weightage (if passed, double amount)
							100%	

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ARTICLE 20 : ESCROW ACCOUNT

20.1. Escrow Account

20.1.1 The Authority shall, prior to the Compliance Date, open and establish an Escrow Account with a Bank (the "**Escrow Bank**") in accordance with the terms and conditions of this Agreement and the Escrow Agreement;

20.1.2 The nature and scope of the Escrow Account as fully described in the Agreement to be entered into amongst the Concessionaire, the Authority the Escrow Bank and the Senior Lenders (if any) through the Lenders" Representative, shall be substantially in the form set forth in **Schedule 17** (the "**Escrow Agreement**")

20.2. Deposits into Escrow Account

The Concessionaire shall deposit or cause to be deposited the following inflows and receipts into the Escrow Account:

- All funds constituting the financial package disbursed by Lenders in terms of the Financing Agreements;
- Proceeds of any rentals, deposits, capital receipts or insurance claims; and;
- All payments by the Authority and the State Government, after deduction of any outstanding payments

The Authority shall at all times and in any month of the Concession Period, ensure that in the Reserve Sub-Account ("Reserve Fund") under the Escrow Account, an amount equivalent to next [90 (ninety] days payable to Concessionaire, in accordance with terms hereof, is deposited and maintained. The Parties agree that so long as the Concessionaire performs its obligations hereunder and the Authority does not notify the Escrow Bank in respect of any non-performance or breach of obligation by Concessionaire directing Escrow Bank to stop any appropriation from Reserve Fund; in case of any delay by the Authority in payment of due and undisputed amount to Concessionaire subject to and in accordance with terms hereof; the Concessionaire shall be entitled to tap the Reserve Fund to withdraw the amount due, which would be deposited and applied as per the application order agreed herein. In case of such tapping, the Authority shall forthwith top up and maintain the required reserve in the Reserve Fund.

20.3. Withdrawals during Concession Period

20.3.1 The Concessionaire shall, at the time of opening the Escrow Account, give irrevocable

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instructions by way of an Escrow Agreement, to the Escrow Bank instructing, inter-alia, that deposits in the Escrow Account shall be appropriated in the following order every month, or at shorter intervals as necessary, and if not due in a month then appropriated proportionately in such month and retained in the Escrow Account and paid out there from in the month when due:

- All taxes due and payable by the Concessionaire for and in respect of the Project;
- All payments relating to construction of the Project, subject to and in accordance with the conditions, if any, set forth in the Financing Agreements;
- O&M Expenses, subject to the ceiling, if any, setforth in the Financing Agreements;
- O&M Expenses and other costs and expenses incurred by the Authority in accordance with the provisions of this Agreement, and certified by the Authority as due and payable to it;
- Any amounts due and payable to the Authority;
- Monthly proportionate provision of Debt Service due in a Financial Year;
- All payments and Damages certified by the Authority as due and payable to it by the Concessionaire;
- Monthly proportionate provision of Debt Service payments due in a Financial Year in respect of Subordinated Debt;
- Any reserve requirements set forth in the Financing Agreements; and
- Balance, if any, in accordance with the instructions of the Concessionaire.

20.3.2 The Concessionaire shall not in any manner modify the order of payment specified in Article 20.3.1 above, except with the prior written approval of the Authority.

20.3.3 The Authority shall have the right, and the Concessionaire hereby expressly grants to the Authority the right, to recover the costs and Damages directly from the Escrow Account, and for that purpose, the Concessionaire hereby agrees to give irrevocable instructions to the Escrow Bank to make payment from the Escrow Account in accordance with the instructions of the Authority. Any demand from the Authority stating that a specified amount is payable shall be final, binding and conclusive on the Concessionaire and Escrow Bank and Escrow Bank shall pay and Concessionaire shall cause the Escrow Bank to pay such amount without any demur, delay, cavil or protest on receiving a demand for such costs and Damages.

20.4. Withdrawals upon Termination

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20.4.1 Notwithstanding anything to the contrary contained in this Agreement, all amounts standing to the credit of the Escrow Account shall, upon Termination, be appropriated in the following order:

- (a) All taxes due and payable by the Concessionaire for and in respect of the Project;
- (b) percentage of Debt Due excluding Subordinated Debt if required to be as per the terms of this Agreement;
- (c) Outstanding payments due to the Authority;
- (d) All payments and Damages certified by the Authority as due and payable to it by the Concessionaire.
- (e) Retention and payments relating to the liability for defects and deficiencies
- (f) outstanding Debt Service including the balance of Debt Due;
- (g) outstanding Subordinated Debt;
- (h) Incurred or accrued O&M Expenses;
- (i) Any other payments required to be made under this Agreement; and
- (j) Balance, if any, in accordance with the instructions of the Concessionaire

Provided that no appropriations shall be made under Sub-Article (g) of this Article 20.4.1 until a vesting certificate has been issued by the Authority.

20.4.2 The provisions of this Article 20 and the instructions contained in the Escrow Agreement shall remain in full force and effect until the obligations set forth in Article 20.4.1 have been fully discharged.

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ARTICLE 21 : FORCE MAJEURE

21.1. Force Majeure Events

21.1.1 A Force Majeure Event means any act, event or circumstance or a combination of acts, events or circumstances or the consequence(s) thereof occurring after the date of this Agreement, which is/are:

- beyond the reasonable control of the Affected Party;
- such that the Affected Party is unable to overcome or prevent despite exercise of due care and diligence;
- which does/do not result from the negligence of such Affected Party or the failure of such Affected Party to perform its obligations hereunder; and
- such that it/they has/have a Material Adverse Effect.

21.1.2 A Force Majeure Event means the following events and circumstances to the extent that they satisfy the conditions set out in Article 21.1.1:

(a) Non-Political Event:

A Non-Political Event shall mean one or more of the following acts or events:

- Act of God, epidemic, pandemic, extremely adverse weather conditions, lightning, earthquake, landslide, cyclone, flood, volcanic eruption, chemical or radioactive contamination or ionizing radiation, fire or explosion (to the extent of contamination or radiation or fire or explosion originating from a source external to the Site);
- fire or explosion caused by reasons not attributable to the Concessionaire or any Concessionaire Related Parties;
- chemical or radioactive contamination or ionizing radiation;
- epidemic, plague or quarantine;
- The discovery of geological conditions, toxic contamination or archaeological remains on the Site that could not reasonably have been expected to be discovered through a site inspection; or
- accidents of navigation, air crash, shipwreck, train wreck or other similar failures of transportation of equipment and/or material necessary for construction or O&M of the Facilities.
- Strikes or boycotts (other than those involving contractors, or their respective

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employees/representatives, or attributable to any act or omission of any of them) interrupting supplies and services to the Project for a continuous period of 7 (seven) days and an aggregate period exceeding 14 (fourteen) days in an Accounting Year, and not being an Indirect Political Event set forth in Clause 21.1.2 (b);

- Any failure or delay of a Contractor but only to the extent caused by another Non-Political Event and which does not result in any offsetting compensation being payable to Concessionaire, by, or on behalf of such Contractor;
- Any judgment or order of any court competent jurisdiction or statutory authority made against the Concessionaire in any proceedings for reasons other than (i) failure of the to comply with any Applicable Law or Applicable Permit, or (ii) on account of breach of any Applicable Law or Applicable Permit or of any contract, or (iii) enforcement of this Agreement, or (iv) exercise of any of its rights under this Agreement by the Authority, or (v) breach of its obligations by the Contractor under its sub-contracts;

Non-Political Force Majeure Event shall not include the following conditions, except to the extent resulting from a Non-Political Force Majeure Event:

- heavy rainfall;
- unavailability, late delivery or changes in cost of plant, machinery equipment, materials or spare parts required for undertaking the Project;
- a delay in the performance of any Subcontractor;
- non-performance resulting from normal wear and tear; or
- non-performance caused by the non-performing Party's (I) negligent or intentional acts, errors or omissions, (II) failure to comply with the Applicable Laws or Applicable Permits, or (III) breach of, or default under, this Agreement, as the case may be.

(b) Indirect Political Event

An indirect Political Event shall mean one or more of the following acts or events:

- Hostilities (whether declared as war or not), riot, civil disturbance, revolution, rebellion, insurrection, act of terrorism, in each case involving the GoI or the Government of Karnataka or occurring in Karnataka;
- invasion, armed conflict, coup d'état, act of foreign enemy, blockade, embargo, revolution, insurgency, nuclear blast/explosion, politically motivated sabotage, religious strife or civil commotion, in each case involving the GoI or the

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Government of Karnataka or occurring in Karnataka;

- strikes or boycotts (including non-political strikes other than those involving the Concessionaire, Sub-Contractors or their respective employees/representatives, or attributable to any act or omission of any of them and the indirect political strikes such as industry-wide or state-wide strikes), lockout, or other industrial disputes which are not directly attributable to the actions of the Affected Party;
- any orders issued by the relevant Government Authority, which require the Concessionaire to suspend the construction or O&M of the Facilities provided that, such orders are not attributable to the Concessionaire's breach or violation of any Applicable Laws or Applicable Permits; and
- delay or failure by relevant Government Authorities in renewing or granting any Applicable Permit, despite the Concessionaire having applied for such Applicable Permit expeditiously and complied with the requirements of Applicable Laws in making such application or the unlawful revocation of any Applicable Permit.
- An act of war (whether declared or undeclared), invasion, armed conflict or act foreign enemy, blockade, embargo, riot, insurrection, terrorist or military action, civil commotion or politically motivated sabotage;
- Industry-wide or State-wide strikes or industrial action for a continuous period of 7 (seven) days and exceeding an aggregate period of 14 (fourteen) days in an accounting Year;
- Any civil commotion, boycott or political agitation which prevents delivery of MSW at the Project Site by Concessionaire for an aggregate period exceeding 7 (seven) days in an accounting Year;
- Any failure or delay of a Contractor to the extent caused by any Indirect Political Event and which does not result in any offsetting compensation being payable to Concessionaire by or on behalf of such Contractor; and
- Any Indirect Political Event that causes a Non-Political Event;
- Any event or circumstances of a nature analogous to any of the foregoing.

(c) Direct Political Event

A Political Event shall mean one or more of the following acts or events by or on account of any Authority Instrumentality:

- occurrence of a Fundamental Change in Law in accordance with Article 23;
- Compulsory acquisition in national interest or expropriation of any Project Assets

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or rights of Concessionaire or of the Contractors;

- any order, notification or judgment issued or passed by any Government Authority/ Court of Law/ Tribunal which restricts the Concessionaire from constructing or operating the Facilities as contemplated in this Agreement on the Site, unless such restriction is, in any manner, attributable to the Concessionaire.
- Unlawful or unauthorized or without jurisdiction revocation of or refusal to renew or grant without valid cause, any clearance, license, permit, authorization, no objection certificate, consent, approval or exemption required by Concessionaire or any of the Contractors to perform their respective obligations under this Agreement and the Project Agreements; provided that such delay, modification, denial, refusal or revocation did not result from Concessionaire or any Contractor's inability or failure to comply with any condition relating to grant, maintenance or renewal of such clearance, license, authorization, no objection certificate, exemption, consent, approval or permit;
- Any failure or delay of a Concessionaire but only to the extent caused by another Political Event;
- Any event or circumstance of a nature analogous to any of the foregoing.

(d) Without prejudice to the provisions above,

- any act, event or circumstance which primarily affects any of the Concessionaire Related Parties associated with the Project shall constitute a Force Majeure Event if and to the extent that it is of a kind or character that, if it had directly affected the Concessionaire, it would have come within the definition of Force Majeure Event under this Article 20.1; and
- any act, event or circumstance which primarily affects any of the Authority Related Parties shall constitute a Force Majeure Event if and to the extent that it is of a kind or character that, if it had directly affected the Authority, it would have come within the definition of Force Majeure Event under this Article 20.1.

(e) If the Parties are unable to agree in good faith on the occurrence or existence of a Force Majeure Event, such dispute shall be finally settled in accordance with the dispute resolution procedure set out in Article 27, provided however that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Affected Party.

21.2. Notice of Force Majeure Events

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21.2.1 The Affected Party shall give notice to the other Party in writing of the occurrence of any Force Majeure Event (the "FM Notice"), as soon as the same arises or as soon as reasonably practicable and in any event within 3 (three) days after the Affected Party knew of its occurrence, the adverse effect it has or is likely to have on the performance of its obligations under this Agreement, the actions being taken and an estimate of the time period required to overcome the Force Majeure Event and/or its nature and effects (if it is possible to estimate the same).

21.2.2 If, following the issue of the FM Notice, the Affected Party receives or becomes aware of any further information relating to the Force Majeure Event, it shall submit such further information to the other Party as soon as reasonably practicable.

21.2.3 Any party claiming to have been affected by a Force Majeure Event shall not be entitled to any relief unless it has complied with all the provisions of this Article 21.2.

21.3. Excuse of Performance

21.3.1 If the Affected Party is rendered wholly or partially unable to perform its obligations under this Agreement because of a Force Majeure Event, it shall be excused from performance of such of its obligations to the extent it is unable to perform on account of such Force Majeure Event; provided that;

- The suspension of performance shall be of no greater scope and of no longer duration than is reasonably required by the Force Majeure Event;
- The Affected Party shall make all reasonable efforts to mitigate or limit damage to the other party arising out of or as a result of the existence or occurrence of such Force Majeure Event and to cure the same with due diligence; and
- When the Affected Party is able to resume performance of its obligations under this Agreement, it shall give to the other Party notice to that effect and shall promptly resume performance of its obligations hereunder.

If a Force Majeure Event affects only one Project Facility, and not the other Project Facilities, then the Affected Party shall only be excused from the performance of its obligations in relation to the affected Project Facilities.

1 NOTE: The Parties may mutually agree to engage an in dependent expert to evaluate the occurrence and effect, etc., of the Force Majeure Event.

21.4. No Liability for Other Losses

Save and except as expressly provided in this Agreement, no Party shall be liable in any

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manner whatsoever to the other Parties in respect of any loss relating to or arising out of the occurrence or existence of any Force Majeure Event or the exercise by it of any right pursuant to this Article 21.

21.5. Resumption of Performance

The Affected Party shall in consultation with the other Parties, make all reasonable efforts to limit or mitigate the effects of a Force Majeure Event on the performance of its obligations under this Agreement. The Affected Party shall also make efforts to resume performance of its obligations under this Agreement as soon as possible and upon resumption, shall notify the other Parties of the same in writing. The other Parties shall afford all reasonable assistance to the Affected Party in this regard.

21.6. Allocation of costs arising out of Force Majeure

21.6.1 Upon occurrence of any Force Majeure Event prior to the COD, the Parties shall bear their respective costs and no Party shall be required to pay to the other Party any costs thereof.

21.6.2 Upon occurrence of a Force Majeure Event after the COD, the costs incurred and attributable to such event and directly relating to the Project the; "Force Majeure Costs") shall be allocated and paid as follows:

- Upon occurrence of a Non-Political Event, the Parties shall bear their respective Force Majeure costs and neither Party shall be required to pay to the other Party any costs thereof;
- Upon occurrence of an Indirect Political Event, all Force Majeure costs attributable to such Indirect Political Event, and not exceeding the insurance cover for such Indirect Political Event, shall be borne by Concessionaire, and to the extent Force Majeure costs exceed such insurance cover, one half of such excess amount shall be reimbursed by the Authority to Concessionaire; and
- Upon occurrence of a Political Event, all Force Majeure costs attributable to such Political Event shall be reimbursed by the Authority to Concessionaire.
- For the avoidance of doubt, Force Majeure costs may include interest payments on debt, O&M Expenses, any increase in the cost of Construction Works on account of inflation and all other costs directly attributable to the Force Majeure Event, but shall not include loss of Tipping Fee revenues or debt repayment obligations, and for determining such costs, information contained in the Financing Documents may be relied upon to the extent that such information irrelevant.
- Save and except as expressly provided in this Article 21, neither Party shall be liable

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in any manner whatsoever to the other Party in respect of any loss, damage, cost, claims, demands and proceedings relating to or arising out of occurrence or existence of any Force Majeure event or exercise of any right pursuant hereto

21.7. Termination due to Force Majeure Event

21.7.1 Termination due to Non-Political Force Majeure Event

If within a continuous period of [365 (three hundred and sixty five)] days, a Non- Political Force Majeure Event continues for a period of [180 (one hundred and eighty)] days or more, after the notification of a Non-Political Force Majeure Event or any extended period agreed in pursuance of Article 21.3, any Party shall, after the expiry of the period of [180 (one hundred and eighty)] days or any other mutually extended period, be entitled to forthwith terminate this Agreement in its sole discretion by issuing a notice to that effect to the other Parties.

Notwithstanding anything contained in this Article 21.7:

- if the Project Facilities are affected by a Total Casualty, then the Concessionaire may terminate this Agreement without having to wait for the expiry of the period of [180 (one hundred and eighty)] days stipulated for a Non-Political Force Majeure Event;
- if the Project Facilities are affected by a Minor Casualty, then the Concessionaire shall be required to repair and restore the Project Facilities to the same condition as previously existed and the Concessionaire shall not be entitled to terminate this Agreement on the grounds of a continuing Non- Political Force Majeure Event.

21.7.2 Termination due to an Indirect Political Force Majeure Event

If within a continuous period of [365 (three hundred and sixty five)] days, an Indirect Political Force Majeure Event continues for a period of [180 (one hundred and eighty)] days or more, after the notification of an Indirect Political Force Majeure Event or any extended period agreed in pursuance of Article 21.3, any Party shall, after the expiry of the period of [180 (one hundred and eighty)] days or any other mutually extended period, be entitled to forthwith terminate this Agreement in its sole discretion by issuing a notice to that effect to the other Parties.

21.7.3 Termination due to a Direct Political Force Majeure Event

- If within a continuous period of [365 (three hundred and sixty five)] days, an Direct Political Force Majeure Event continues for a period of [180 (one hundred and eighty)] days or more, after the notification of a Direct Political Force Majeure

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Event or any extended period agreed in pursuance of Article 21.3, any Party shall, after the expiry of the period of [180 (one hundred and eighty)] days or any other mutually extended period, be entitled to forthwith terminate this Agreement in its sole discretion by issuing a notice to that effect to the other Parties.

- All the other consequences of termination that are set out at Article 24 shall apply in case of termination of this Agreement due to a Force Majeure Event

21.8. Dispute Resolution for Force Majeure Event.

In the event that the Parties are unable to agree in good faith about the occurrence or existence of a Force Majeure Event, such Dispute shall be finally settled in accordance with the Dispute Resolution Procedure; provided that the burden of proof as to the occurrence or existence of such Force Majeure Event shall be upon the Party claiming relief and/or excuse on account of such Force Majeure Event.

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ARTICLE 22 :SUSPENSION OF CONCESSIONAIRE'S RIGHTS

22.1. Suspension upon Concessionaire Default

Upon occurrence of a Concessionaire Event of Default, Authority shall be entitled, without prejudice to its other rights and remedies under this Agreement including its rights of Termination hereunder, to (i) suspend all rights of the Concessionaire under this Agreement including the Concessionaire's right to receive Payments under **Article 20**, and other revenues pursuant hereto, and (ii) exercise such rights itself and perform the obligations hereunder or authorize any other person to exercise or perform the same on its behalf during such suspension (the "**Suspension"**). Suspension hereunder shall be effective forthwith upon issue of notice by Authority to the Concessionaire and may extend up to a period not exceeding 180 (one hundred and eighty) days from the date of issue of such notice; provided that upon written request from the Concessionaire and the Lender's Representative, Authority shall extend the aforesaid period of 180 (one hundred and eighty) days by a further period not exceeding [90 (ninety)] days.

22.2. Authority to act on behalf of Concessionaire

22.2.1 During the period of Suspension, the Authority shall be entitled to encash the Operation Performance Security for meeting the costs incurred by it for remedying and rectifying the cause of Suspension, and thereafter for defraying the expenses.

22.2.2 During the period of Suspension hereunder, all rights and liabilities vested in the Concessionaire in accordance with the provisions of this Agreement shall continue to vest therein and all things done or actions taken, including expenditure incurred by the Authority for discharging the obligations of the Concessionaire under and in accordance with this Agreement and the Project Agreements, shall be deemed to have been done or taken for and on behalf of the Concessionaire and the Concessionaire undertakes to indemnify the Authority for all costs incurred during such period. The Concessionaire hereby licences and sub-licences respectively, the Authority or any other person authorised by it under Clause 30.2 to use during Suspension, all Intellectual Property belonging to or licenced to the Concessionaire with respect to the Project and its design, engineering, construction, operation and maintenance, and which is used or created by the Concessionaire in performing its obligations under the Agreement.

22.3. Revocation of Suspension

22.3.1 In the event that the Authority shall have rectified or removed the cause of Suspension

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within a period not exceeding 90 (ninety) days from the date of Suspension, it shall revoke the Suspension forthwith and restore all rights of the Concessionaire under this Agreement. For the avoidance of doubt, the Parties expressly agree that the Authority may, in its discretion, revoke the Suspension at any time, whether or not the cause of Suspension has been rectified or removed hereunder.

22.3.2 Upon the Concessionaire having cured the Concessionaire Event of Default within a period not exceeding 90 (ninety) days from the date of Suspension, the Authority shall revoke the Suspension forthwith and restore all rights of the Concessionaire under this Agreement.

22.4. Substitution of Concessionaire:

At any time during the period of Suspension, the Lenders' Representative, on behalf of Senior Lenders, shall be entitled to substitute the Concessionaire under and in accordance with the Substitution Agreement, and upon receipt of notice there under from the Lender's Representative, Authority shall withhold Termination for a period not exceeding [180 (one hundred and eighty)] days from the date of Suspension, and any extension thereof due to Concessionaire default, for enabling the Lenders' Representative to exercise its rights of substitution on behalf of Senior Lenders.

22.5. Termination

22.5.1 At any time during the period of Suspension under this Article 22, the Concessionaire may by notice require Authority to revoke the Suspension and issue a Termination Notice. Subject to the rights of the Lenders' Representative to undertake substitution in accordance with the provisions of this Agreement, Authority shall, within [15 (fifteen)] days of receipt of such notice, terminate this Agreement under and in accordance with Article 22.

22.5.2 Notwithstanding anything to the contrary contained in this Agreement, in the event that Suspension is not revoked within [180 (one hundred and eighty)] days from the date of Suspension hereunder or within the extended period, if any, the Concession Agreement shall, upon expiry of aforesaid period, be deemed to have been terminated by mutual agreement of the Parties and all provisions of this Agreement shall apply, mutatis mutandis, to such Termination as if a Termination Notice had been issued by Authority upon occurrence of a Concessionaire Default.

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ARTICLE 23 : CHANGE IN LAW

23.1. Changes in-law

The Concessionaire may claim the benefit of and/or relief for a Change in Law event subject to and in accordance with this Article 23.

23.2. Increase in costs

If as a result of Change in Law, the Concessionaire suffers an increase in costs or reduction in net after-tax return or other financial burden, the aggregate financial effect of which exceeds **0.5% of the Estimated Capital Cost of the Project** in any Accounting Year, the Concessionaire may so notify the Authority and propose amendments to this Agreement so as to place the Concessionaire in the same financial position as it would have enjoyed had there been no such Change in Law resulting in the cost increase, reduction in return or other financial burden as aforesaid. Upon notice by the Concessionaire, the Parties shall meet, as soon as reasonably practicable but no later than 30 (thirty) days from the date of notice, and either agree on amendments to this Agreement or on any other mutually agreed arrangement:

Provided that if no agreement is reached within 90 (ninety) days of the aforesaid notice, the Concessionaire may by notice require the Authority to pay an amount that would place the Concessionaire in the same financial position that it would have enjoyed had there been no such Change in Law, and within 15 (fifteen) days of receipt of such notice, along with particulars thereof, the Authority shall pay the amount specified therein; provided that if the Authority shall dispute such claim of the Concessionaire, the same shall be settled in accordance with the Dispute Resolution Procedure. For the avoidance of doubt, it is agreed that this Clause 35.1 shall be restricted to changes in law directly affecting the Concessionaire's costs of performing its obligations under this Agreement.

23.3. Reduction in costs

If as a result of Change in Law, the Concessionaire benefits from a reduction in costs or increase in net after-tax return or other financial gains, the aggregate financial effect of which exceeds 0.5% of the Estimated Capital Cost of the Project in any Accounting Year, the Authority may so notify the Concessionaire and propose amendments to this Agreement so as to place the Concessionaire in the same financial position as it would have enjoyed had there been no such Change in Law resulting in the decreased costs, increase in return or other financial gains as aforesaid. Upon notice by the Authority, the Parties shall meet, as soon as reasonably practicable but no later than 30 (thirty) days from the date of notice,

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and either agree on such amendments to this Agreement or on any other mutually agreed arrangement:

Provided that if no agreement is reached within 90 (ninety) days of the aforesaid notice, the Authority may by notice require the Concessionaire to pay an amount that would place the Concessionaire in the same financial position it would have enjoyed had there been no such Change in Law, and within 15 (fifteen) days of receipt of such notice, along with particulars thereof, the Concessionaire shall pay the amount specified therein to the Authority; provided that if the Concessionaire shall dispute such claim of the Authority, the same shall be settled in accordance with the Dispute Resolution Procedure. For the avoidance of doubt, it is agreed that this Clause 35.2 shall be restricted to changes in law directly affecting the Concessionaire's costs of performing its obligations under this Agreement.

23.4. Restriction on cash compensation

The Parties acknowledge and agree that the demand for cash compensation under this Article 35 shall be restricted to the effect of Change in Law during the respective Accounting Year and shall be made at any time after commencement of such year, but no later than one year from the close of such Accounting Year. Any demand for cash compensation payable for and in respect of any subsequent Accounting Year shall be made after the commencement of the Accounting Year to which the demand pertains, but no later than two years from the close of such Accounting Year.

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ARTICLE 24 : EVENTS OF DEFAULT AND TERMINATION

24.1. Events of Default

Event of Default shall mean either Concessionaire Event of Default or the Authority Event of Default or both as the context may admit or require.

24.2. Concessionaire Event of Default:

24.2.1 In addition to any events specified elsewhere in this Agreement, events arising out of any acts or omissions of the Concessionaire and which have not occurred solely as a consequence of a Authority Event of Default, a Qualifying Change in Law, a Fundamental Change in Law or any other Force Majeure Event, and where the Concessionaire has failed to remedy the defects within any specified time period (to the extent any time period is provided), any of the following events shall constitute an Event of Default by the Concessionaire (the "Concessionaire Event of Default"):

- failure of the Concessionaire to complete the construction of a Project Facility by the expiry of the Grace Period;
- failure of the Concessionaire to pay the Delay Liquidated Damages within the timelines specified in this Agreement;
- failure of the Concessionaire to achieve successful completion of Trial Operations of Project Facilities;
- failure of the Concessionaire to remedy any reduction in Availability within [3 (three)] days of receipt of a notice from the Authority in accordance with Article 19;
- failure of the Concessionaire to build and/or operate the Project in compliance with the KPIs and Technical Specifications;
- for any Project Facility, failure of the Concessionaire to achieve the KPIs for [2 (two)] consecutive days, [32 (thirty two)] times in a continuous [12 (twelve)] month period;
- suspension of the construction of a Project Facility pursuant to Article 22 (to the extent such Emergency is attributable to the Concessionaire) for a continuous period of 60 (sixty) days;
- a breach by the Concessionaire of its obligations under this Agreement which has a Material Adverse Effect on the ability of the Concessionaire to construct and/or operate and maintain the Project Facilities and such breach, if capable of being remedied, is not remedied within [30 (thirty)] days of issuance of written notice

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from the Authority specifying such breach and requiring the Concessionaire to remedy the same;

- any representation made or warranties given by the Concessionaire under this Agreement being found to be false or misleading in any material respect;
- failure of the Concessionaire to submit and maintain a valid Performance Securities and O&M Securities in accordance with Article 9;
- -deleted-
- breach by the Concessionaire of its obligations set forth in this Agreement;
- failure of the Concessionaire to obtain, renew and maintain any Concessionaire Applicable Permits;
- failure of the Concessionaire to comply with any Applicable Law (including specifically the EPA);
- failure of the Concessionaire to obtain and maintain insurance cover in accordance with Article 28;
- failure of the Concessionaire or the Sub-Contractors to comply with the ESHS Documents in accordance with Article 14;
- the breach of the Concessionaire's obligations under or the occurrence of an Event of Default or analogous event under the Financing Agreements or the Escrow Agreement, or termination of the Financing Agreements, or the Escrow Agreement (for reasons attributable to the Concessionaire).
- abandonment of the Project by the Concessionaire;
- the Concessionaire has unlawfully repudiated this Agreement or has otherwise expressed an intention not to be bound by this Agreement;
- a resolution for insolvency of the Concessionaire is passed, or any petition for insolvency of the Concessionaire is initiated before a court (including tribunal) of competent jurisdiction in accordance with the provisions of Insolvency and Bankruptcy Code, 2016 and such application has not been withdrawn within 14 (fourteen) days of the date thereof;
- if a trustee or receiver is appointed for the Concessionaire or for the whole or material part of its assets that has a material bearing on the Project;
- a resolution for winding up of the Concessionaire is passed, or any petition for winding up of the Concessionaire is admitted by a court (including tribunal) of

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competent jurisdiction in accordance with the provisions of Insolvency and Bankruptcy Code, 2016 or Companies Act, 1956/ Companies Act, 2013 and a liquidator or receiver is appointed and such order has not been set aside within 90 (ninety) days of the date thereof or the Concessionaire is ordered to be wound up by Court except for the purpose of amalgamation or reconstruction; provided that, as part of such amalgamation or reconstruction, the entire property, assets and undertaking of the Concessionaire are transferred to the amalgamated or reconstructed entity and that the amalgamated or reconstructed entity has unconditionally assumed the obligations of the Concessionaire under this Agreement and the agreements in relation thereto; and provided that:

- the amalgamated or reconstructed entity has the capability and operating experience necessary for the performance of its obligations under this Agreement and the agreements in relation thereto; and
- the amalgamated or reconstructed entity has the financial standing to perform its obligations under this Agreement and the agreements in relation thereto and has a credit worthiness at least as good as that of the Concessionaire as at the Effective Date.

24.3. Authority Event of Default

24.3.1 Any of the following events shall constitute an event of default by Authority (the "Authority Event of Default"), when not caused by a Concessionaire Event of Default or Force Majeure Event:

- Authority has failed to make any payments due to the Concessionaire and more than 120 (one twenty) days have elapsed since such default;
- Authority or the Department or the Independent Engineer is in Material Breach of any of its obligations under this Agreement and have failed to cure such breach within 60 (sixty) days of receipt of notice thereof issued by the Concessionaire;
- Authority has unlawfully repudiated this Agreement or otherwise expressed its intention not to be bound by this Agreement;
- Authority has unreasonably withheld or delayed grant of any approval or permission within its respective jurisdictions and such delay and withholding is not attributable to Concessionaire or Force Majeure which the Concessionaire is obliged to seek under this Agreement, and thereby caused or likely to cause Material Adverse Effect;
- Any representations made or warranties given by the Authority under this Agreement

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have been found to be false or misleading.

24.4. Termination due to Event of Default

24.4.1 Termination for Concessionaire Event of Default:

- (a) Without prejudice to any other right or remedy which Authority may have in respect thereof under this Agreement, upon the occurrence of a Concessionaire Event of Default, Authority shall, be entitled to terminate this Agreement in the manner as set out under Article 24.4.1(b) and Article 24.4.1(c).
- (b) Provided however that upon the occurrence of a Concessionaire Event of Default as specified under Article 24.2, Authority may terminate this Agreement by issue of Termination Notice in the manner set out under Article 24.4.3 after giving the Concessionaire an opportunity of hearing.
- (c) If Authority decides to terminate this Agreement pursuant to preceding Article 24.4.1(a), it shall in the first instance issue Preliminary Notice to the Concessionaire. Within 30 (thirty) days of receipt of the Preliminary Notice, the Concessionaire shall submit to Authority in sufficient detail, the manner in which it proposes to cure the underlying Event of Default (the "Concessionaire's Proposal to Rectify").
- (d) In case of non-submission of the Concessionaire's Proposal to Rectify within the said period of 30 (thirty) days, the Authority shall be entitled to terminate this Agreement by issuing Termination Notice, and the Performance Security of the Concessionaire shall get forfeited.
- (e) If the Concessionaire's Proposal to rectify is submitted within the period stipulated therefore, the Concessionaire shall have further period of 30 (thirty) days to remedy/ cure the underlying Event of Default. If, however the Concessionaire fails to remedy/cure the underlying event of default within such further period allowed, the Authority shall be entitled to terminate this Agreement, by issue of Termination Notice and the Performance Security of the Concessionaire shall get forfeited.

24.4.2 Termination for Authority Event of Default

- Without prejudice to any other right or remedy which the Concessionaire may have in respect thereof under this Agreement, upon the occurrence of Authority Event of Default, the Concessionaire shall be entitled to terminate this Agreement by issuing Termination Notice;
- If the Concessionaire decides to terminate this Agreement pursuant to preceding

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Article 24.4.2(a) it shall in the first instance issue Preliminary Notice to Authority, as the case may be. Within 30 (thirty) days of receipt of Preliminary Notice, Authority , as the case may be, shall forward to the Concessionaire its proposal to remedy/ cure the underlying Event of Default (the " Authority Proposal to Rectify"). In case of non-submission of Proposal to rectify by Authority, as the case may be, within the period stipulated therefore, Concessionaire shall be entitled to terminate this Agreement by issuing Termination Notice;

- If Authority Proposal to Rectify is forwarded to the Concessionaire within the period stipulated therefore, Authority, as the case may be, shall have further period of 30 (thirty) days to remedy/ cure the underlying Event of Default. If, however, Authority, as the case may be, fails to remedy/ cure the underlying Event of Default within such further period allowed, the Concessionaire shall be entitled to terminate this Agreement by issuing Termination Notice.

24.4.3 Termination Notice

If a Party become entitled to do so decide to terminate this Agreement pursuant to the preceding sub article 24.4.1 or 24.4.2, it shall issue Termination Notice setting out:

- In sufficient detail the underlying Event of Default;
- The Termination Date which shall be a date occurring not earlier than 90 days from the date of Termination Notice;
- The estimated termination payment including the details of computation thereof and,
- Any other relevant information.

The Parties hereby agree that any Termination Notice shall also be sent to all Senior Lenders, Obligation of Parties.

24.4.4 Obligation of Parties

Following issue of Termination Notice by either Party, the Parties shall, subject to the provision of the Financing Documents and the rights of the Senior Lenders provided therein, promptly take all such steps as may be necessary or required to ensure that:

- until Termination is final the Parties shall, to the fullest extent possible, discharge their respective obligations so as to maintain the continued operation of the Project;
- the Termination Payment, if any, payable by Authority in accordance with the Article 24.4.5 is paid to the Concessionaire within 30 (thirty) days of the Termination Date; and

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- the Project is handed over to Authority by the Concessionaire on the Termination Date free from any Encumbrance along with any payment that may be due by the Concessionaire to Authority .

24.4.5 **Termination Payment for Authority Event of Default**

Upon Termination of this Agreement on account of Authority Event of Default, the Concessionaire shall be entitled to receive back the Performance Security and also receive an amount as per Article 25 as Termination Payment.

24.4.6 **Withdrawal of Termination Notice:**

Notwithstanding anything inconsistent contained in this Agreement, if the Party who has been served with the Termination Notice cures the underlying Event of Default to the satisfaction of the other Party at any time before the Termination occurs, the Termination Notice shall be withdrawn by the Party which had issued the same. Provided that the Party in breach shall compensate the other Party for any direct costs/ consequences occasioned by the Event of Default which caused the issue of Termination Notice.

24.4.7 **Termination Payment for Concessionaire Event of Default**

- Upon Termination of this Agreement on account of Concessionaire Event of Default before COD, Termination Payment shall be made to the Concessionaire as per Article 25, and the Authority shall be entitled to forfeit the Performance Security of the Concessionaire;
- Upon Termination of this Agreement on account of Concessionaire Event of Default after COD, the Authority shall be entitled to forfeit the Performance Security of the Concessionaire and pay Termination Payment to the Concessionaire as per Article 25.

24.4.8 **Upon termination of this Agreement**

- The Concessionaire shall cease all work in relation to construction of the Project Facilities.
- The Concessionaire shall cease all work in relation to O&M of the Project Facilities.
- The Concessionaire shall take all necessary steps to safeguard and protect the Project Facilities (at whatever stage of completion or operation) and all other equipment, materials and goods on the Sites.
- The Concessionaire shall hand over the Sites and the immovable assets, to Authority or its nominee, to the extent applicable, as per Articles 24.4.9, 23.4.10, and 24.4.11.

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- In case of termination of this Agreement due to an Authority Event of Default Authority shall return the Performance Securities, the O&M Securities if not already returned to the Concessionaire, after adjusting any outstanding payments owed by the Concessionaire, within 30 (thirty) days from the Transfer Date.

- The Concessionaire agrees that on the service of a Termination Notice or 180 (one hundred and eighty) days prior to the expiry of the Concession Period by efflux of time, it shall conduct or cause to be conducted by the Independent Engineer/ Authority , a survey (the "**Condition Survey**") and inspection of the Project to ascertain the condition thereof, verify compliance with the Concessionaire's obligations under this Agreement and to prepare an inventory of the assets comprised in the Project;

- If, as a result of the Condition Survey, Authority, and the Independent Engineer shall observe/notice that the Project or any part thereof is not in the condition required thereof under this Agreement (except normal wear and tear) the Concessionaire shall, at its cost and expenses, take all necessary steps to put the same in the requisite conditions well before the Termination Date.

24.4.9 Transfer of the Sites and the Project Facilities

Upon the expiry or early termination of this Agreement, the Concessionaire shall hand over the Sites, the immovable assets such as Processing & Disposal Facility, Material Recovery Facility, decentralized units, etc., to Authority any other entity nominated by Authority in accordance with this Article 24 on a date mutually decided by Authority and the Concessionaire (the "**Transfer Date**"). For the avoidance of doubt, it is clarified that, in case of natural expiry of the Agreement, the Project Site shall be transferred to the Authority after 30 years from COD, and the part of the Sites on which the Landfill Site has been created shall be transferred to the Authority after 45 years from the COD after due post-closure activities are done by the Concessionaire.

24.4.10 Inspection of the Sites and the Project Facilities

- No later than 30 (thirty) days from the end of the 29th (twenty nineth) year of the Construction and Processing & Disposal period or 30 (thirty) days from the date of termination of the Agreement, as the case may be, Authority shall or shall cause the Independent Engineer to carry out a condition survey of the Sites and the Project Facilities to assess whether they have been maintained by the Concessionaire in accordance with its obligations under this Agreement, and are in working condition in line with the design life of the Project Facilities.

- Authority shall notify the Concessionaire at least 7 (seven) days prior to the date on

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which it wishes to carry out the survey of the Sites and the Project Facilities.

- If the survey carried out by Authority or the Independent Engineer shows that the Concessionaire has not or is not complying with its obligations under this Agreement, then Authority shall notify the Concessionaire of the rectification and/or maintenance work which is required to ensure that the condition of the Sites and the Project Facilities is restored to the Hand-back Conditions.

- The Concessionaire shall carry out such rectification and/or maintenance work to achieve the Hand-back Conditions within 30 (thirty) days from the receipt of a notice from Authority in accordance with Article 24.4.10(c) above, at its own cost and risk. Upon completion of the rectification and/or maintenance work, the Concessionaire shall request Authority to carry out a final survey and inspection of the Sites and the Project Facilities. Authority shall carry out the final survey within 7 (seven) days of receipt of a notice from the Concessionaire pursuant to this Article 24.4.10(d). [At the discretion of Authority, the Concessionaire may be allowed extension of the period of [15 (fifteen)] days to rectify the defects notified by Authority or Independent Engineer if and to the extent that the Project Facilities cannot be used for the purposes for which they are intended after handing over by reason of a defect or damage attributable to the Concessionaire.]

- If Authority is satisfied with the results of the final survey, then Authority shall notify the Concessionaire within 7 (seven) days of carrying out the final survey that the Sites and the Project Facilities, comply with the Hand-back Conditions. If Authority not satisfied with the results of the final survey, then Authority shall or shall cause the Independent Engineer to estimate the cost of restoring the Sites and the Project Facilities to the Hand-back Conditions and recover such cost from the Concessionaire. The final decision of the compensation lies with the apex authority of Authority. The Concessionaire is binding upon the decision of the Authority.

24.4.11 Hand-back Requirements

On the expiry or early termination of this Agreement, the Concessionaire shall, at its own cost:

- hand over to Authority or any entity nominated by Authority , the Sites and the Project Facilities;

- to the extent that such rights and interests are not already vested in Authority , transfer all its rights and interest in the immovable assets comprising in the Project Facilities and execute such deeds and documents as may be necessary for this purpose and complete all related legal or other formalities;

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- hand over all records and documents relating to the Sites and the Project Facilities including as-built records, Designs and Drawings, online monitoring and metering data, operating logs, manuals, reports, plans and records;
- transfer to Authority or its nominee (free of cost) the license to use the Proposed Technology and other know-how relating to the Project Facilities;
- transfer or cause to be transferred to Authority or its nominee any Sub-Contract that Authority or its nominee has chosen to take over and terminate all other sub-Concessions;
- transfer to Authority or its nominee all Concessionaire Applicable Permits which Authority or its nominee may require, and which can be legally transferred;
- remove from the Sites all employees and workmen, and movable assets, equipment and materials that are not required to be taken over by Authority or its nominee; and
- cooperate with and assist Authority with the Project post the handing over.
- Upon the expiry or earlier termination of the Concession Period, failure to handover the same within a period of 7 (seven) days of the expiry or earlier termination of the Concession Period would make the Concessionaire liable for payment of penalty equivalent to 1% (one per cent) of the last annual Tipping Fee including Revenue Share per day up-to a maximum of 15 (fifteen) days, after which the Authority shall be entitled to enter upon and take possession of the Site including the Project on as-is- where-is basis.

24.4.12 Consequences of termination due to a Force Majeure Event

In case of termination of the Agreement due to a Force Majeure Event, the following consequences shall apply:

- the Concessionaire shall hand over the Sites and the immovable assets, to Authority on an "as is where is" basis and to the extent relevant;
- Authority shall be required to return the Performance Securities or the O&M Securities, as the case may be, after adjusting any outstanding payments owed by the Concessionaire, to the Concessionaire within 30 (thirty) days from the Transfer Date; and
- in case of termination due to an Indirect Political Force Majeure Event or a Direct Political Force Majeure Event, Authority shall (or shall require the Independent Engineer) to assess the Cost of the construction work undertaken by the Concessionaire in relation to the Project Facilities as on the date of the Termination

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Notice and based on such assessment, pay the Termination Compensation in accordance with Article 24.

24.5. Rights of Authority on Termination

24.5.1 Upon Termination of this Agreement for any reason whatsoever, Authority shall upon making the Termination Payment, if any, to the Concessionaire, have the power and Authority to:

- enter upon and take possession and control of the Sites, constructed Project Facilities and the immovable assets, forthwith;
- prohibit the Concessionaire and any person claiming through or under the Concessionaire from entering upon/ dealing with the Project including Project Facilities and the immovable assets;

24.5.2 Notwithstanding anything contained in this Agreement, Authority shall not, as consequence of Termination or otherwise, have any obligation whatsoever including but not limited to obligations as to compensation for loss of employment, continuance or regularization of employment, absorption or re-employment on any ground, in relation to any person in the employment of or engaged by the Concessionaire in connection with the Project, and the handover of the Project Facilities by the Concessionaire to Authority shall be free from any such obligation/ fee/ penalties/taxes.

Termination Payment shall become due and payable to the Concessionaire within 15 (fifteen) days of a demand being made by the Concessionaire to Authority with the necessary particulars, and in the event of any delay, Authority shall pay interest at a rate equal to 3% (three per cent) above the State Bank of India Base Rate on the amount of Termination Payment remaining unpaid; provided that such delay shall not exceed 90 (ninety) days. For the avoidance of doubt, it is expressly agreed that the Termination Payments shall become due and payable by Authority upon actual or constructive handover of the Sites, Project Facilities and immovable assets by the Concessionaire to Authority clear from all encumbrances, charges and liens whatsoever, unless expressly agreed by the Parties otherwise.

24.5.3 The Concessionaire expressly agrees that Termination Payment under this Article 25 shall constitute a full and final settlement of all claims of the Concessionaire on account of Termination of this Agreement for any reason whatsoever and that the Concessionaire or any shareholder thereof shall not have any further right or claim under any law, treaty, convention, Concession or otherwise.

24.5.4 Authority and the Concessionaire hereby unconditionally acknowledge and agree that,

For reference purpose only

without prejudice to their any other right or remedy, Authority shall be entitled to pay the Termination Payment [to the extent required] to the Lenders‟ Representative for procuring discharge/ release of the any charge/ hypothecation created by Concessionaire on the movable assets for securing payment of Debt Due; and for this purpose the Lender is entitled to receive from Authority, without any further reference to or consent of the Concessionaire, the Debt Due upon Termination of the Concession Agreement. For realisation of the Debt Due as aforesaid, the Lenders‟ Representative shall be entitled to make its claim from the Escrow Account in accordance with the provisions of the Concession Agreement and the Escrow Agreement; and Concessionaire hereby irrevocably agree that such payment by the Authority shall be full and final settlement of proportionate claim of Termination Payment to the Concessionaire under this Agreement.

24.6. Accrued Rights and liabilities of Parties

- Notwithstanding anything to the contrary contained in this Agreement, Termination pursuant to any of the provisions of this Agreement shall be without prejudice to accrued rights of either Party including its right to claim and recover money as damages and other rights and remedies which it may have in law or Concession. All accrued rights and obligations of either Party under this Agreement, including without limitation those relating to the Termination Payment, shall survive the Termination but only to the extent such survival is necessary for giving effect to such rights and obligations.
- Nothing in Article 23 shall prevent or restrict a Party to seek injunctive relief or a decree of specific performance or other discretionary remedies of the court.

For reference purpose only

ARTICLE 25 : TERMINATION COMPENSATION

25.1. Termination Compensation for Termination post the Compliance Date but prior to the Construction Completion Date

25.1.1 **For the Authority Event of Default**

If the Agreement is terminated prior to the Construction Completion Date for an Authority Event of Default, the Authority shall be liable to pay to the Concessionaire the aggregate of:

- Net Tipping Fee (after deduction of penalties) payable by Authority as on the date of the Termination Notice;
- Debt Due;
- 110%* of Adjusted Value of the equity on Termination Date

LESS

- any unadjusted Mobilization Advance (and interest if any);
- any amounts due and payable by the Concessionaire under this Agreement (including Liquidated Damages).

25.1.2 **For a Concessionaire Event of Default**

If the Agreement is terminated prior to the Construction Completion Date for a Concessionaire Event of Default, the Authority shall pay to the Concessionaire, the aggregate of:

- Net Tipping Fee (after deduction of penalties) payable by Authority as on the date of the Termination Notice;

  LESS

- any unadjusted Mobilization Advance (and interest if any);
- any amounts due and payable by the Concessionaire under this Agreement (including Liquidated Damages).payment shall constitute full discharge by the Authority of its payment obligations in respect thereof hereunder.

25.2. Termination Compensation for Termination post the Construction Completion Date but prior to the COD

25.2.1 **For the Authority Event of Default**

For reference purpose only

If the Agreement is terminated post the Construction Completion Date but prior to the COD for an the Authority Event of Default or BBMP Event of Default, the Authority or the BBMP shall be liable to pay to the Concessionaire the aggregate of:

- Net Tipping Fee (after deduction of penalties) payable by Authority ;
- Debt Due;
- 110%* of Adjusted Value of the equity on Termination Date

LESS

- any amounts due and payable by the Concessionaire under this Agreement (including Liquidated Damages).

25.2.2 **For a Concessionaire Event of Default**

If the Agreement is terminated post the Construction Completion Date but prior to the COD for a Concessionaire Event of Default, the Authority or the BBMP shall pay to the Concessionaire, the aggregate of:

- Net Tipping Fee (after deduction of penalties) payable by Authority if not already paid as on the date of the Termination Notice;
- 90% of the Debt due less Insurance Cover;

LESS

- any amounts due and payable by the Concessionaire under this Agreement (including Liquidated Damages).

25.3. Termination Compensation for Termination post the COD

25.3.1 **For the Authority Event of Default**

If the Agreement is terminated post the COD for an Authority Event of Default, the Authority shall be liable to pay to the Concessionaire the aggregate of:

- Net Tipping Fee (after deduction of penalties) payable by Authority that remain outstanding on the date of the Termination Notice;
- Debt due;
- 110%* of Adjusted Value of the equity on Termination Date;

LESS

- any amounts due and payable by the Concessionaire under this Agreement

For reference purpose only

(including Liquidated Damages).

25.3.2 For a Concessionaire Event of Default (in accordance with **Schedule 18**)

If the Agreement is terminated post the COD for a Concessionaire Event of Default, the Authority shall pay to the Concessionaire, the aggregate of:

- Net Tipping Fee (after deduction of penalties) payable by Authority as on the date of the Termination Notice;
- 90% of the Debt due less Insurance Cover;

LESS

- any amounts due and payable by the Concessionaire under this Agreement (including Liquidated Damages).

25.4. Termination Compensation for Termination due to a Force Majeure Event

25.4.1 Non-Political Force Majeure Event and Indirect Political Force Majeure

- If the Agreement is terminated due to an Indirect Political Force Majeure Event or Non- Political Force Majeure Event, prior to the COD:
  - Net Tipping Fee (after deduction of penalties) payable by Authority due to the Concessionaire as on the date of the Termination Notice under Article 21;
  - Debt Due;

LESS

  - any insurance proceeds received and retained by the Concessionaire
- If the Agreement is terminated due to an Indirect Political Force Majeure Event or Non- Political Force Majeure Event, post the COD, the Authority shall be liable to pay to the Concessionaire:
  - Net Tipping Fee (after deduction of penalties) payable by Authority as on the date of the Termination Notice in case of facilities under Article 21;
  - Debt Due;

LESS

  - any insurance proceeds received and retained by the Concessionaire.
- Direct Political Force Majeure

For reference purpose only

- If the Agreement is terminated due to a Direct Political Force Majeure Event, prior to the COD, the Authority or the BBMP shall be liable to pay to the Concessionaire:
  - Net Tipping Fee (after deduction of penalties) payable by Authority to the Concessionaire as on the date of the notice of termination under Article 21;
  - Debt Due;
  - Equity infused in the Concessionaire as on the date of the notice of termination under Article 20 along with interest on the Equity at the rate of the prevailing SBI MCLR + 3% (three per cent);

LESS

  - any unadjusted Advance and interest (if any);
  - any insurance proceeds received and retained by the Concessionaire; and
  - any amounts due and payable by the Concessionaire under this Agreement (including Liquidated Damages).

- If the Agreement is terminated due to a Direct Political Force Majeure Event post the COD, BSWML or the BBMP shall be liable to pay to the Concessionaire:
  - Net Tipping Fee (after deduction of penalties) payable by Authority on the date of the notice of termination under Article 21;

LESS

  - any insurance proceeds received and retained by the Concessionaire; and
  - any amounts due and payable by the Concessionaire under this Agreement (including Liquidated Damages).

25.5. All Termination Compensation required to be paid by *the BBMP or BSWML* to the Concessionaire shall be paid within 60 (sixty) days of transfer of the Sites and the Project Facilities in accordance with Article 24.

25.6. Limitations on Termination Compensation

For reference purpose only

- Termination Compensation, due and payable under this Agreement shall be limited to the Debt Due and Adjusted Equity, as the case may be, which form part of the Project Cost, in accordance with the provisions of this Agreement. For avoidance of doubt, it is agreed that within a period of [60 (sixty)] days from COD, the Concessionaire shall notify to BSWML (with a copy to the BBMP), the Project Cost and its disaggregation between Debt Due and Equity, and only the amounts so conveyed shall form the basis of computing Termination Compensation, and it is further agreed that in the event such disaggregation is not notified to BSWML, the Equity and Debt Due shall be arrived at by adopting the proportion between debt and equity as specified in the Financing Agreements. The Parties also agree that, notwithstanding anything contained in this Agreement, for the purposes of computing Termination Compensation, the Debt Due shall at no time exceed [50% (fifty per cent)] of the Project Cost.

- The amount payable in respect of any Debt Due expressed in foreign currency shall be computed at the Reference Exchange Rate for conversion into the relevant foreign currency as on the date of Termination Compensation. Provided, however, that the provisions of this Article 25.6 (b) shall not apply if the Concessionaire does not notify the particulars of any foreign currency loans within [60 (sixty)] days of the date of conversion of such foreign currency loans into Indian currency. Provided further that all borrowings in foreign currency shall be restricted to the financing of the Project Cost and any borrowings in excess thereof shall not qualify for computation of Termination Compensation.

25.7. Full and Final Settlement

Notwithstanding anything to the contrary elsewhere in this Agreement, any Termination Compensation determined pursuant to this Article 25 shall, once paid, be in full and final settlement of any claim, demand and/or proceedings of the Concessionaire against BSWML or the BBMP, in relation to Termination of this Agreement and the Concessionaire shall be excluded from all other rights and remedies in respect of such Termination.

25.8. The provisions of this Article 25 shall survive the Termination of this Agreement.

For reference purpose only

ARTICLE 26 : SUBSTITUTION OF THE CONCESSIONAIRE

26.1. Substitution by Lenders' Representative

In the event of Concessionaire's default, BSWML shall, if there be any Lenders, send copy of the Termination Notice to the Lenders" Representative to inform and grant 15 (fifteen) days to the Lenders" Representative, for making representation on behalf of the Lenders stating the intention to substitute the Concessionaire. In case BSWML receives representation on behalf of the Lenders, within the aforesaid period, BSWML shall withhold the termination for period not exceeding 180 (one hundred and eighty) days, for enabling the Lenders" Representative to exercise the Lenders" right of substitution in accordance with the Substitution Agreement and substitute the Concessionaire with Nominated Company.

26.2. Substitution by BSWML

In the event that no company is nominated by the Lender's Representative to act as the Nominated Company, BSWML may either substitute the Concessionaire with its own Nominated Company in accordance with the Substitution Agreement or terminate the Agreement.

26.3. Substitution Process

While carrying out substitution, the Lender's Representative or BSWML, as the case may be, shall invite competitive bids from the prospective parties for acting as the Nominated Company and substituting the Concessionaire. Such Nominated Company shall have to agree to bear all the liabilities of the Concessionaire in terms of this Agreement and Financing Agreement.

26.4. Consequences of Substitution

BSWML shall grant, to the Nominated Company, the right to develop, design, finance, construct, operate and maintain the Project (including entering into Sub-Contracts) together with all other rights of the Concessionaire under this Agreement, subject to fulfillment of the Concessionaire's entire obligation under this Agreement by such Nominated Company, for the remainder of the term of this Agreement. Such rights shall be granted by BSWML through the novation of the Agreement, if applicable, in favour of the Nominated Company.

BSWML shall also execute new Substitution Agreement with the Nominated Company and the Lenders, if there be any. All Sub-Contracts and agreements in respect of the Project including Financing Agreements and all Sub-Contracts executed by the Concessionaire

For reference purpose only

shall stand transferred and novated in favour of the Nominated Company. Further all rights of the Concessionaire on the Sites and Project Assets in terms of the Agreement shall stand transferred and novated in favour of the Nominated Company. All approvals/ clearances of BSWML received by the Concessionaire shall stand transferred and novated in favour of the Nominated Company. The Concessionaire shall get replaced by the Nominated Company for all purposes related to the Project.

For reference purpose only

ARTICLE 27 : DISPUTE RESOLUTION

27.1. Amicable Resolution

27.1.1 Save where expressly stated to the contrary in this agreement, any dispute, difference or controversy of whatever nature between the parties, howsoever arising under, out of or in relation to this Agreement (the "Dispute') shall in the first instance be attempted to be resolved amicably in accordance with the procedure set forth in Clause (ii) below.

27.1.2 Either Party may require such Dispute to be referred to the MD of the Authority and the Chief Executive Officer of Concessionaire for the time being, for amicable settlement. Upon such reference, the two shall meet at the earliest mutual convenience and in any event within 15 days of such reference to discuss and attempt to amicably resolve the Dispute.

27.1.3 The Parties agree to use their best efforts for resolving all Disputes arising under or in respect of this Agreement promptly, equitably and in good faith, and further agree to provide each other with reasonable access during normal business hours to all non- privileged records, information and data pertaining to any Dispute.

27.1.4 If the Dispute is not amicably settled within 15 (fifteen) days of the Dispute Meeting, either Party may refer the Dispute to ACS, UDD for dispute resolution..

27.2. Conciliation

In the event of any Dispute between the Parties, either Party may call upon the Independent Engineer, as the case may be, to mediate and assist the Parties in arriving at an amicable settlement thereof. Failing mediation by the Independent Engineer or without the intervention of the Independent Engineer, as the case may be, either Party may require such Dispute to be referred to the Arbitration & Conciliation Centre – Bengaluru (III Floor, East Wing, 'Khanija Bhavana', Race Course Road, Bengaluru-560 001, India) to mediate and assist the Parties in arriving at an amicable settlement.

If such meeting does not take place within 30 (thirty) days or the Dispute is not resolved as evidenced by the signing of written terms of settlement within [90 (ninety)] days of the notice in writing referred to in Article 27.1.1 or such longer period as may be mutually agreed by the Parties, either Party may approach the Court of Law in Bengaluru jurisdiction.

27.3. Arbitration

- [Deleted]

27.4. Performance during Dispute

For reference purpose only

Pending the submission of and/or decision on a Dispute; the Parties shall continue to perform their respective obligations under this Agreement without prejudice to a final adjustment in accordance with such award.

27.5. Adjudication by Regulatory Authority or Commission

In the event of constitution of a statutory regulatory authority or commission with powers to adjudicate upon Disputes between the Concessionaire and the Authority, all Disputes arising after such constitution shall, be adjudicated upon by such regulatory authority or commission in accordance with the Applicable Law and all references to Dispute Resolution Procedure shall be construed accordingly. For the avoidance of doubt, the Parties hereto agree that the adjudication hereunder shall not be final and binding until an appeal against such adjudication has been decided by an appellate tribunal or High Court, as the case may be, or no such appeal has been preferred within the time specified in the Applicable Law.

For reference purpose only

ARTICLE 28 : INSURANCE

28.1. Insurance

The Concessionaire shall at its cost and expense, purchase and maintain by due re-instatement or otherwise, during the Concession Period all insurances in respect of the Project Facilities in accordance with the Good Industry Practices. The Concessionaire shall also effect and maintain such insurances as may be necessary for mitigating the risks that may devolve on the Authority as a consequence of any act or omission of the Concessionaire during the Construction Period. The Concessionaire shall procure that in each insurance policy, the Authority shall be a co-insured and that the insurer shall pay the proceeds to insurance. For the avoidance of doubt, the level of insurance to be maintained by the Concessionaire after repayment of Lenders‘ dues in full shall be determined on the same principles as applicable for determining the level of insurance prior to such repayment of Lenders‘ dues.

The following list may be considered:

- Builders’/Sub- Contractors’ all risk insurance;
- Erection insurance and/or break down insurance;
- Public liability insurance applicable for the Concession Period, Termination and post- Termination period;
- Statutory insurances such as workmen's compensation insurance or any other insurance required by the Applicable Laws;
- Comprehensive Third-Party liability insurance including injury or death to Persons who may enter the Sites;
- Insurance policies related to any of the Concessionaire's obligations hereunder;
- Any other insurance that may be considered necessary by Authority/ Lenders of the Concessionaire, if any, to protect the Concessionaire, its employees and its assets (against loss, damage or destruction at replacement value) or otherwise, including all Force Majeure Events that are insurable and not otherwise covered in items (a) to(f).

28.2. Notice of the Authority

No later than 45 (forty-five) days prior to commencement of the Construction Period and

For reference purpose only

the Operation Period, as the case may be, the Concessionaire shall by notice furnish to the Authority, in reasonable detail, information in respect of the insurances that it proposes to effect and maintain in accordance with this Article 27. Within 30 (thirty) days of receipt of such notice, the Authority may require the Concessionaire to effect and maintain such other insurances as may be necessary pursuant hereto, and in theevent of any difference or disagreement relating to any such insurance, the Dispute Resolution Procedure shall apply.

28.3. Evidence of Insurance Cover

All insurances obtained by the Concessionaire in accordance with this Clause 28.3 shall be maintained with insurers on terms consistent with Good Industry Practice. Within 15 (fifteen) days of obtaining any insurance cover, the Concessionaire shall furnish to the Authority, notarized true copies of the certificate(s) of insurance, copies of insurance policies and premium payment receipts in respect of such insurance, and no such insurance shall be cancelled, modified, or allowed to expire or lapse until the expiration of at least 45 (forty five) days after notice of such proposed cancellation, modification or non-renewal has been delivered by the Concessionaire to the Authority.The Concessionaire shall maintain a register of entry in order of premiums paid towards Insurance of the Project Facilities. Remedy for failure to insure

If the Concessionaire shall fail to effect and keep in force all insurances for which it is responsible pursuant hereto, the Authority shall have the option to either keep in force any such insurances, and pay such premium and recover the costs thereof from the Concessionaire, or in the event of computation of a Termination Payment, treat an amount equal to the Insurance Cover as deemed to have been received by the Concessionaire.

28.4. Waiver of Subrogation

All insurance policies in respect of the insurance obtained by the Concessionaire pursuant to this Article 28 shall include a waiver of any and all right of subrogation or recovery of the insurers thereunder against, inter alia, the Authority, and its assigns, successor, underrating and their subsidiaries, affiliates, employees, insurers and underwriters and of any right of the insurers of any set-off or counterclaim orany other deduction, whether by attachment or otherwise, in respect of any liability of any such person insured under any such policy or in any way connected with any loss, liability or obligation covered by such policies of insurance.

28.5. Concessionaire’s waiver

The Concessionaire hereby further releases, assigns and waives any and all rights of recovery against, inter alia, the Authority, and its assigns, undertaking, and their affiliates,

For reference purpose only

subsidiaries, employees, successors, assigns, insurers and underwriters, which the Concessionaire may otherwise have or acquire in or from or in any way connected with any loss, liability or obligations covered by policies of insurance maintained or required to be maintained by the Concessionaire pursuant to this Agreement (other than Third Party liability insurance policies) or because of deductible Articles in or inadequacy of limits of any such policies of insurance.

28.6. Application of Insurance Proceeds

Subject to the provisions of the Financing Documents and unless otherwise provided herein, the proceeds of all insurance policies received shall be promptly applied by Concessionaire towards repair, renovation, restoration or re-instatement of the Project Facilities or any part thereof which may have been damaged or destroyed. The Concessionaire shall designate the Authority as the beneficiary for the assets under ownership of the Authority as per Clause 27.1 and may designate the Lenders as the beneficiaries for the assets underthe Concessionaire ownership as per Clause 27.1 or assign the insurance policies in their favour as security for the financial assistance provided by them to the Project. The Concessionaire shall carry such repair, renovation, restoration or re- instatement to the extent possible in such manner thatthe Project Facilities after such repair, renovation, restoration or re-instatement to the extent possible in the same condition as it were prior to such damage or destruction, normal wear and tear accepted.

28.7. No Breach of Insurance Obligation

If during the Concession Period, any risk which has been previously insured becomes un-insurable due to the fact that the insurers have ceased to insure such a risk and therefore insurance cannot be maintained/re-instated in respect of such risk, Concessionaire shall not be in breach of its obligations regarding insurance under this Agreement.

For reference purpose only

ARTICLE 29 : VARIATION – (Deleted)

For reference purpose only

ARTICLE 30 : INTELLECTUAL PROPERTY AND CONFIDENTIALITY

30.1. Proprietary Material

30.1.1 The property in all designs, drawings, processes, methods, details, plans, concepts, technology, specifications, schedules, programs, reports, calculations, documents and other works relating to the Project, including intellectual property rights therein or thereto, whether registered or not, which have been or are hereafter written, originated, made or generated by the Concessionaire or any of its employees, Sub-Contractors, consultants or agents in connection with this Agreement or the design, development, construction, O&M of the Project/Project Facilities/Project Assets, shall be and remain at all times the property of the Concessionaire, vest exclusively in the Concessionaire and ensure to the exclusive benefit of the Concessionaire (the "Proprietary Material").

30.1.2 The Concessionaire, as beneficial owner, hereby grants to BSWML a perpetual non-exclusive license to use such Proprietary Material in connection with the Project, irrevocably and free of cost. Such license shall carry the right to use the Proprietary Material for all purposes connected with the Project; however, it shall not be transferable to a Third Party. Such license shall automatically get extended to BSWML for Project purpose only, and not for Third Party use or transfer, upon the Termination of this Agreement or the discharge by the Concessionaire of its duties hereunder.

30.2. Confidentiality

30.2.1 The Independent Engineer/ Authority shall not at any time divulge or disclose or suffer or permit its servants or agents to divulge or disclose, transfer, communicate to any Person or use in any manner for any sss unconnected with the Project any Proprietary Material or other information, material, documents, records or data, concerning the Project, the Concessionaire and the Independent Engineer, the Authority, BSWML(including any information concerning the contents of this Agreement) except of its directors, officials, employees, Sub-Concessionaires, consultants, agents or representatives on a need to know basis or as may be required by any law, rule, regulation or any judicial process.

30.2.2 Authority shall use such Proprietary Material and information only for the purposes of this Agreement or as otherwise expressly permitted by the Concessionaire in writing.

30.2.3 The Concessionaire shall ensure that all its directors, employees, Sub- Concessionaires,

For reference purpose only

consultants, agents or representatives execute, deliver and comply with customary confidentiality and non-disclosure agreements reasonably required by Authority, have been duly approved by Authority, with respect to the Project.

30.2.4 The aforesaid provisions shall not apply to the following information: -

- Obtained from a Third Party who is free to divulge the same and which was not obtained under any obligation of confidentiality; or
- Already in the public domain otherwise than by breach of this Agreement;
- Disclosed due to a court order or under any Act of GoI/Authority of Karnataka or required by Applicable Laws.

30.3. Survival

The Concessionaire and BSWML accept and confirm that the provisions of this Article 30 shall survive the Termination of this Agreement.

For reference purpose only

ARTICLE 31 : ACCOUNTS AND AUDIT

31.1. The Concessionaire shall maintain full accounts of all revenues derived/collected by it from and on account of use of the Project, income, expenditure, payments, assets and liabilities, in accordance with this Agreement, Good Industry Practice, Applicable Laws and Applicable Permits. The Concessionaire shall provide to The Authority 2 (two) copies of the said accounts duly audited and certified by the Concessionaire's Statutory Auditors within 120 (one hundred twenty) days of the close of each Financial Year to which they pertain, during the subsistence of this Agreement. Such audited accounts shall form the basis of various payments by either Party under this Agreement. The Concessionaire shall also furnish, within one week of its publication, certified copies of the audited accounts and annual report published by the Company under the Applicable Laws. The Authority shall have the right to inspect the records of the Concessionaire during office hours and require copies of relevant extracts of books of accounts, duly certified by the Statutory Auditors, to be provided to the Authority for verification of basis of payments, and in the event of any discrepancy or error being found, the same shall be rectified and such rectified account shall form the basis of payments by either Party under this Agreement.

31.2. The Concessionaire shall appoint and have during the subsistence of this Agreement as its Statutory Auditors (the "Statutory Auditors") a firm of Chartered Accountants duly licensed to practice in India out of the mutually agreed list of [10 (ten)] independent and reputable firms of Chartered Accountants in India (the "List of Chartered Accountants"). Subject to 30 (thirty) days" notice to the Authority and the replacement Statutory Auditors being appointed from the List of Chartered Accountants, the Concessionaire may terminate the appointment of any Statutory Auditor appointed in accordance with this Article. The fees and expenses of the Statutory Auditors shall be borne by the Concessionaire.

31.3. On or before the 15th (fifteenth) day of April each year, the Concessionaire shall provide for the preceding Financial Year a statement duly audited by its Statutory Auditors giving summarized information, the revenues derived from the Project and such other information as the Authority may reasonably require.

31.4. Notwithstanding anything to the contrary contained in this Agreement, The Authority shall have the right but not the obligation to appoint at its cost another firm of Chartered Accountants from the List of Chartered Accountants (the "Additional Auditor") to audit and verify all those matters, expense, costs, realizations and things which the Statutory Auditors of the Concessionaire, are required to do, undertake or certify pursuant to this Agreement.

For reference purpose only

31.5. In the event of there being any difference between the finding of the Additional Auditor, and the certification provided by the Statutory Auditors of the Concessionaire, such Auditors shall meet to resolve such differences and if they are unable to resolve the same such disputed certification shall be resolved by recourse to the Dispute resolution procedure.

For reference purpose only

ARTICLE 32 : MISCELLANEOUS

32.1. Assignment and Charges

32.1.1 Concessionaire shall not assign in favor of any person this Agreement, or the rights, benefits and obligations hereunder save and except with prior consent of both Authority. Concessionaire shall not create nor permit to subsist any Encumbrance over the Project Facilities except with prior consent in writing of Authority.

32.1.2 Restraint set forth in Article 32.1.1. above shall not apply to:

- Liens/ encumbrances arising by operation of law (or by an Agreement evidencing the same) in the ordinary course of business of Concessionaire.
- Pledges/ hypothecation of goods/ stocks/ movable assets, Revenue and receivables as security for indebtedness, in favor of the Senior Lenders and working capital providers for the Project.
- Assignment of Concessionaire's rights and benefits under this Agreement to or in favors of the Senior Lenders as security for financial assistance provided by them.

Provided, no charge/ mortgage/ lien/ hypothecation or encumbrance of any kind whatsoever can be created or construed as allowed to be created over the Project Assets including the Sites, assets and equipment provided by the Authority for the Project.

Provided further that irrespective of security hereinabove permitted, Concessionaire is irrevocably obligated to procure release of such security and hand over to the Authority, upon Termination of this Agreement, their respective Project Assets free of all Encumbrances whatsoever.

32.2. Interest and Right of Setoff : NOT APPLICABLE

32.3. Governing Law and Jurisdiction:

This agreement shall be governed by the laws of India. The Courts in the State of Karnataka shall have jurisdiction over all matters arising out of or relating to this Agreement.

32.4. Waiver

Waiver by either party of any default by the other party in the observation and performance of any provision of or obligation under this Agreement:

- Shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions or obligation under this agreement;

For reference purpose only

- Shall not be effective unless it is in writing and executed by a duly authorized representative of such Party; and
- Shall not affect the validity or enforceability of this agreement in any manner.

Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this agreement or any obligation hereunder nor time or other indulgence granted by a Party to the other Party shall be treated or deemed as waiver/ breach of any terms, conditions or provisions of this Agreement.

32.5. Survival

- Termination of this agreement shall not relieve Authority of any obligations already incurred hereunder which expressly or by implication survives Termination hereof, and expect as otherwise provided in any provision of this agreement expressly limiting the liability of either party, shall not relieve either party of any obligations or liabilities for loss or damage to the other party arising out of or caused by acts or omissions of such party prior to the effectiveness of such termination or arising out of such termination.
- Termination shall:
  - not relieve the Concessionaire or the Authority, as the case may be, of any obligations hereunder which expressly or by implication survive Termination hereof; and
  - except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of, or caused by, acts or omissions of such Party prior to the effectiveness of such Termination or arising out of such Termination.

All obligations surviving Termination shall only survive for a period of [3 (three) years] following the date of such Termination.

32.6. Amendments

This Agreement and the Schedules/ Annexures together constitute a complete and exclusive understanding of the terms of the Agreement between the parties on the subject hereof and no amendment or modification hereto shall be valid and effective unless agreed to by all the parties hereto and evidenced in writing.

32.7. Notice

For reference purpose only

Unless otherwise stated, notices to be given under this Agreement including but not limited to a notice of waiver of any term, breach of any term of this agreement and termination of this Agreement, shall be in writing and shall give by hand delivery, recognized international courier, mail, telex or facsimile transmission and delivered or transmitted to the Parties at their respective addresses set forth below;

If to Authority

Managing Director /BSWML Bengaluru Solid Waste Management Limited

30/1, Thimmaiah Road, Millers Tank Bund Area, Vasanthnagar, Bengaluru-560 052

If to Bruhat Bengaluru Mahanagara Palike (BBMP)

The Chief Commissioner

Bruhat Bengaluru Mahanagara Palike (BBMP)

If to Concessionaire:

_____

Or such address, telex number, or facsimile number as may be duly notified by the respective Parties from time to time, and shall be deemed to have been made or delivered:

- In the case of any communication made by letter, when delivered by hand, by recognized international courier or by mail (registered, return receipt requested) at that address, and
- In the case of any communication made by telex or facsimile, when transmitted properly addressed to such telex number or facsimile number.

32.8. Severability

If for any reason whatever any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to the Dispute Resolution Procedure set forth under this Agreement or otherwise.

32.9. No Partnership

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Nothing contained in this agreement should be construed or interpreted as constituting a partnership between the Parties. Neither Party shall have any authority to bind the other in any manner whatsoever.

32.10. Language

All notice required to be given under this agreement and all communications, documentation and proceedings which are in any way relevant to this Agreement shall be in writing and in English language and true translation into English language if other than English is used at user's costs and expenses.

32.11. Counterparts

This agreement may be executed in two counterparts, each of which when executed and delivered shall constitute an original of this agreement but shall together constitute one and only the Agreement.

32.12. Liability for Review

Except to the extent expressly provided in this Agreement:

- no review, comment, certification, verification or approval by BSWML or Authority, of any Project Agreement, design, detailed engineering, or document, accounts, invoice, etc., submitted by the Concessionaire nor any observation, testing, certification, validation or inspection of the construction, operation or maintenance of the Project nor the failure to review, approve, comment, observe, test or inspect hereunder shall relieve or absolve the Concessionaire from its obligations, duties and liabilities under this Agreement, the Applicable Laws and Applicable Approvals; and
- the Authority, BSWML, their advisors or shall not be liable to the Concessionaire by reason of any review, comment, approval observation, testing, certification, verification, validation or inspection referred in Sub- Clause (a)above.

32.13. Unforeseen Event

Any event or condition that has not been explicitly covered under the provisions of this Agreement shall be resolved after discussion and mutual agreement between the Parties.

32.14. Liability and Indemnification

- The Concessionaire shall indemnify, defend and hold harmless (the "**Indemnifying Party**") The Authority (the "**Indemnified Parties**") during the Concession Period

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from and against all liabilities, damages, losses, expenses, claims, suits, proceedings, judgments, settlements, actions, costs of any nature whatsoever, whether directly or indirectly arising, for personal injury, for damage to or loss of any property and any Third Party liability, including reasonable attorneys' fees, actually incurred or suffered by the Indemnified Parties, arising out of or in any way connected with (i) any breach, negligence, default, omission, violation, infringement etc., as the case may be, by the Indemnifying Party or Persons claiming through or under it or due to such Party's representations and warranties herein; covenants, agreements or obligations contained herein or the terms and conditions hereof; any intellectual property right of any Person; (ii) failure of the Indemnifying Party or Persons claiming through or under it to comply with Applicable Laws or the Applicable Permits or to pay taxes or make contractual or other payments due and payable to any Person; (iii) the employment, sickness, injury or death of any Person employed directly or indirectly by the Indemnifying Party or Persons claiming through or under it ;or(iv) as provided elsewhere herein.

- The Concessionaire shall be responsible for executing, performing its obligations hereunder in accordance with the provisions of this Agreement at its risk and consequence and shall be responsible for any liability whatsoever arising under, in connection with or in relation to the discharge of obligations hereunder by the Concessionaire or Persons claiming through or under it and shall indemnify, keep indemnified and hold The Authority and its advisors harmless in this behalf.

- The Authority shall not be liable to the Concessionaire for any indirect, consequential, incidental, punitive or exemplary damages, loss of profit, consequential financial or economic loss or any disruption in the flow of Solid Waste into the Project for any reason whatsoever.

- The Concessionaire shall keep The Authority indemnified during the Concession Period against any claims, damages, liabilities, costs, penalties etc. (i) from or by any Authority BSWML, including the CPCB or the SPCB, and Third Parties for damages to the environment or any acts, omissions, defaults or negligence of the Concessionaire that damages the environment; and (ii) resulting from accidents at work, occupational diseases and contingencies that may arise at or around the Sites or in the employment of labor and personnel at the Project. The Concessionaire shall remain liable for its acts or omissions in implementing the Project in accordance with the Technical Specifications and the Applicable Laws even after the Termination of this Agreement by efflux of time or otherwise.

- Except as expressly provided in this Agreement, the Concessionaire shall carry out

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and perform its rights and obligations under this Agreement and the Project Agreements at its own cost and risk. It shall be fully responsible for and shall bear the financial risks in relation to the Project and all its rights and obligations under or pursuant to this Agreement and the Project Agreements till the Termination Date.

- The provisions of this Article 32.14 shall survive the Termination of this Agreement.

32.15. Liability for review of Documents and Drawings

Except to the extent expressly provided in this Agreement:

- no review, comment or approval by BSWML or the Authority or the Independent Expert of any Project Agreement, Document or Drawing submitted by the Concessionaire nor any observation or inspection of the construction, operation or maintenance of the Project nor the failure to review, approve, comment, observe or inspect hereunder shall relieve or absolve the Concessionaire from its obligations, duties and liabilities under this Agreement, the Applicable Laws and Applicable Permits; and
- The Authority shall not be liable to the Concessionaire by reason of any review, comment, approval, observation or inspection referred to in Sub-Article (a) above.

32.16. Reservation of Rights

No forbearance, indulgence, relaxation or inaction by the Concessionaire at any time to require performance of any of the provisions of this Agreement shall in any way affect, diminish or prejudice the right of BSWML or the Authority to require performance of that provision, and no delay in exercising or omitting to exercise any right, power or remedy accruing to BSWML or the Authority upon any default or otherwise under this Agreement shall impair any such right, power or remedy or shall be construed to be a waiver thereof or any acquiescence in such default, nor shall the action or inaction of BSWML or the Authority in respect of any default or any acquiescence by it in any default, affect or impair any right, power or remedy of BSWML or the Authority in respect of any other default.

32.17. Third parties

This Agreement is intended solely for the benefit of the Parties and their respective successors and permitted assigns and nothing in this Agreement shall be construed to create any duty to, standard of care with reference to, or any liability to, any person not a Party to this Agreement.

32.18. Entire Agreement

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This Agreement and the Schedules together constitute a complete and exclusive statement of the terms of the agreement between the Parties on the subject hereof and no amendment or modification hereto shall be valid and effective unless such modification or amendment is agreed to in writing by the Parties and duly executed by persons especially empowered in this behalf by the respective Parties. All prior written or oral understandings, offers or other communications of every kind pertaining to this Agreement are abrogated and withdrawn. For the avoidance of doubt, the Parties hereto agree that any obligations of the Concessionaire arising from the Request for Qualification or Request for Proposals, as the case may be, shall be deemed to form part of this Agreement and treated as such.

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ARTICLE 33 : DEFINITIONS

In this Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

Access Road	means a motorable approach road required to be built (if any) for providing access to the Site(s) to the Concessionaire;
Actual Project Cost	Shall mean the actual cost incurred on the construction of the Project Facilities as submitted by the successful bidder/Concessionaire in the Detail Project Report and authenticated by the Authority.
Additional Performance Security	means the performance security that must be submitted by the Selected Bidder to the Authority, together with the Performance Security and ESHS Performance Security to secure the obligations of the Concessionaire/Bidder in accordance with the requirements of this Agreement;
Adjusted Equity	means the Equity funded in Indian Rupees and adjusted on the first day of the current month (the **"Reference Date"**), in the manner set forth below, to reflect the change in its value on account of depreciation and variations in Wholesale Price Index (WPI) applicable to 'All Commodities' announced by Government of India, and for any Reference Date occurring: **(a)** On or before Commercial Operation Date (COD), the Adjusted Equity shall be a sum equal to the Equity funded in Indian Rupees and expended on the Project, revised to the extent of one half of the variation in WPI occurring between the first day of the month of Compliance Date and the Reference Date; **(b)** From Commercial Operation Date (COD) and until the 5th (fifth) anniversary thereof, an amount equal to the Adjusted Equity as on COD shall be deemed to be the base (the **"Base Adjusted Equity"**) and the Adjusted Equity hereunder shall be a sum equal to the Base Adjusted Equity, revised at the commencement of each month following COD to the extent of variation in WPI occurring between COD and the Reference Date; **(c)** After the 5th (fifth) anniversary of COD, the Adjusted Equity hereunder shall be a sum equal to the Base Adjusted Equity, reduced by 0.33% (zero point three three percent) thereof at the commencement of each month following the 5th (fifth) anniversary of COD and the amount so arrived at shall be revised to the extent of variation in WPI occurring between COD and the Reference Date; **(d)** For the avoidance of doubt, the Adjusted Equity shall, in the event of Concession Period, be computed as on the Reference Date immediately preceding the Concession Period Date; provided that no reduction in the Base Adjusted Equity shall be made for a period equal to the duration, if any, for which the Concession Period is extended, but the revision on account of WPI shall continue to be made;
Affected Party	shall mean the party claiming to be affected by a Force Majeure Event in accordance with Article 21
"Agreement" or "Concession	means this agreement between BSWML and Concessionaire, including its schedules, annexures and includes any amendments and hereto in

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Agreement"	accordance with the provisions hereof.
"Applicant/Bidder"	The term Bidder (the "**Applicant/Bidder**") means a single entity or a group of entities (the "**Joint Venture**"/ "**Consortium**"), not more than three members (including lead member) as the case may be, coming together to implement the Project. However, no Bidder applying individually or as a member of a Joint Venture/Consortium, as the case may be, can be a member of another Joint Venture/Consortium. The term Bidder used herein would apply to both a single entity and a Joint Venture/Consortium.
Applicable Permits	Shall mean all clearances, licenses, permits, authorizations, no objection certificates, consents, approvals, and exemptions required to be obtained or maintained under Applicable Laws in connection with the construction, operation and maintenance of the Project during the subsistence of this Agreement.
Applicable Law	shall mean all laws, Acts, ordinances, rules, regulations, notification & guidelines in force and effect, including MSW Rules 2016, as of the date hereof and which may be promulgated or brought into force and effect hereinafter in India including judgments, decrees, injunctions, writs or orders of any court of record, as may be in force and effect during the period of subsistence of this agreement and applicable to the Project.
Authorized Representative	Means an individual or an authority to sign the bid and all associated documents
Arbitration Act	shall mean the Arbitration and conciliation Act, 1996 of India and shall include any amendment to or any re-enactment thereof as in force from time to time.
Associate	shall mean any company (ies) which is (are) controlled by the Concessionaire. For the purpose of this definition, the term "control' means the power to direct the management or policies of such entity, directly or indirectly, through the ownership of shares or other securities, by contract or otherwise, provided that the direct or indirect ownership of fifty one percent (51%) or more of its voting share capital is deemed to constitute control of such entity, and "controlled" shall be constructed accordingly.
Authority Event of Default	shall have the meaning assigned thereto in Article 24
Availability	means the availability of the Project Facilities to collect, transport process and dispose Solid Waste, as determined in accordance with Articles 19
Bank Rate	shall mean is the rate of interest as notified by Reserve bank of India (RBI) from time to time in pursuance of section 49 of the RBI act, 1934 or any replacement of such bank rate for the time being in effect.
Bid	shall mean the documents in their entirety comprised in the Bid submitted by the {selected Bidder/Consortium} in response to the Request for Proposal in accordance with the provisions mentioned thereof.
Bid Due Date	shall mean the last date of filing the Bid as notified by the authority.

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Bid Security	Means a form of monetary guarantee the Authority requires from a bidder or tenderer to safeguard against the withdrawal of their bid before the end of the bid validity period, or their refusal to sign the contract, if selected.
Bio Gas	Biogas is produced naturally through a process of anaerobic decomposition from waste / bio-mass sources like agriculture residue, cattle dung, sugarcane press mud, municipal solid waste, sewage treatment plant waste, etc.
Bio Medical Waste	Biomedical waste or hospital waste or any kind of waste containing infectious (or potentially infectious) materials. It may also include waste associated with the generation of biomedical waste that visually appears to be of medical or laboratory origin (e.g. packaging, unused bandages, infusion kits etc.), as well research laboratory waste containing biomolecules or organisms that are mainly restricted from environmental release. Or Any waste, which is generated during the diagnosis, immunisation, treatment of human beings or animals, or in research activities pertaining thereto or in the production or testing of biologicals including the categories.
Bio Methanation	A process which entails enzymatic decomposition of the organic matter by microbial action to produce methane rich biogas.
Bio-medical waste treatment and disposal facility	The facility wherein treatment, disposal of bio-medical waste or processes incidental to such treatment and or disposal is carried out and includes in integrated waste processing facilities.
Book Value	shall mean the cost of the fixed assets incurred by the Concessionaire for the Project, net of accumulated depreciation computed on straight line basis in accordance with the rates specified in Companies Act, 1956 and as determined by an independent firm of chartered accountants mutually agreed upon and appointed by the Parties.
Bulk Waste Generators	Bulk Waste Generators Categorization as :- (a) Residential waste generators with more than 100 Multi Dwelling Units (MDUs) (b) Commercial and Institutional waste generators generating solid waste of more than 100 kgs per day or located on the premises with site area of more than 5000sqm, as per SWM Bye-Laws of BSWML
Change in Law	shall have the meaning ascribed thereto in Article 23 of DCA
C&T or Collection & Transportation	refers to secondary collection & transportation up to Decentralized unto or Processing site
C&D Waste	The waste comprising of building materials debris and rubble resulting from construction, re modelling, repair and demolition of any civil structure.
Concessionaire Event of Default	shall have the meaning assigned thereto in Article 24
Conditions Precedent	means conditions to be satisfied before commencement of the Project as specified in Article 4;
Central Pollution Control	The Central Pollution Control Board constituted under subsection (1) of Section 3 of the Water (Prevention and Control of Pollution) Act,

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Board/CBCB	1974 (6 of 1974).
COD (Commercial operation Date)	Shall mean the date on which the Facility is ready to commence the operations and maintenance and is duly certified by the Independent Expert / Engineer. It shall not be later than 24 (Twenty-Four) months from the date of obtaining the CTE / EC as applicable.
Coercive Practice	means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract
Company	shall mean the special purpose Company set up by the Consortium or single entity which is the selected Bidder for the Project.
Composting	A controlled process involving microbial decomposition of organic matter.
Concession Period	Shall mean the period of 30 years from the COD of facility.
Concessionaire	Means the successful Bidder / Applicant Selected by the Authority.
Concessionaire's Representative	means the Person nominated by the Concessionaire, from time to time, to act on its behalf and liaise with the State Government and the Authority for the purposes of this Agreement and notified as such in writing to the State Government and the Authority.
Conditions Precedent	means collectively, the obligations of the Concessionaire that are set out at Article 4, the obligations of the State Government and the Authority that are set out at Article 6 and '**Condition Precedent**' means any one of these
Construction Requirements	shall mean collectively the waste processing facility construction requirements and the landfill facility construction requirements in line with minimum specifications given in Project Information Memorandum (PIM) of the RFP document.
Construction Works	shall mean all works and things required to be constructed by the Concessionaire, pursuant to the construction requirements and O&M Requirements.
Contractor	shall mean any person with whom Concessionaire has entered into/may enter into any material contract in relation with the construction works and O&M Requirements.
Corrupt Practices	Means any offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the. procurement process or in contract execution
Change in Ownership	means a transfer of the direct and/or indirect legal or beneficial ownership of any shares, or securities convertible into shares, that causes the aggregate holding of the {selected Bidder/Consortium Members} together with {its/their} Associates in the total Equity to decline below (i) 51% (fifty one per cent) after 10 years from the date of COD - Waste to Energy Plant, (ii) 33% (thirty three per cent) after 15 years from the date of COD - Waste to Energy Plant, and (iii) 26% (twenty six per cent) after 20 years from the date of COD - Waste to Energy Plant, or such lower proportion as may be permitted by the Authority during the remaining Agreement Period; provided that any material variation (as compared to the representations made by the SPV during the bidding process) in the proportion of the Equity holding of the

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	{selected bidder/any Consortium Member} to the total Equity if it occurs prior to COD Integrated Waste Management Facility, shall constitute Change in Ownership;
CTP / SCTP's / Transfer Station.	A permanent facility for a Collection Transportation Point (Transfer Station) established or taken over by the Concessionaire at various locations of project area, where the waste is taken from smaller collection vehicles and placed in larger vehicles for transport, including truck trailers, railroad cars, or barges. Recycling/recovery of dry waste and some processing may also take place at transfer stations.
CV	Means Curriculum Vitae
Daily Weight Sheet	shall have the meaning given to the term in Clause 5.11.
DBFOT	Means Design, Build, Finance, Operate and Transfer
Debt Due	means the aggregate of the following sums expressed in Indian Rupees or in the currency of debt, as the case may be, outstanding and payable to the Senior Lenders under the Financing Documents: a. The principal amount of the debt provided by the Senior Lenders under the Financing Documents for financing the Project (the "principal") which is outstanding as on the Termination Date but excluding any part of the principal that had fallen due for repayment one year prior to the Termination Date unless such repayment had been rescheduled with the prior consent of Authority; and b. All accrued interest (calculated at a rate of 2% above the prevailing medium-term lending rate per annum for loans with 1 (one) year maturity as fixed from time to time by the State Bank of India), financing fees and charges payable on or in respect of the debt referred to in sub-clause (a) above upto the date preceding the Termination Date but excluding(i) any interest, fees or charges that had fallen due one year prior to the termination Date, and (ii) penal interest or charges, payable under the Financing Documents to any Senior Lender.
DPR	shall mean Detailed Project Report prepared by the Concessionaire and jointly signed between Authority & Concessionaire shall also include any subsequent revisions which are jointly signed.
Document	Means a piece of written, printed, or electronic matter that provides information or evidence or that serves as an official record for the – purpose of this tender.
Domestic Hazardous Waste	Domestic hazardous wastes mean waste contaminated with hazardous chemicals or infectious waste such as discarded paint drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles, gauge and syringes, etc. generated at the household level.
Dispute Resolution Procedure	means the procedure for the resolution of Disputes set forth in Article 27;
Drawings	shall mean all of the drawings, calculations, and documents pertaining to the Project, and shall include 'Working Drawings" as referred in the Clause 15.2
Doorstep Collection or Primary Collection	Doorstep collection entails the gathering of waste directly from the main gates of households, shops, offices, and other non- residential premises, where it has been segregated and placed for removal. Or from

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	any collection point or any other location specified by the authority.
Dry waste	Dry Waste means any solid waste including, but not limited to plastics, rubber, lumber, trees, stumps, asphaltic products, or other materials that have reduced potential for environmental degradation.
Effective Date	means the date of signing of this Agreement and any amendment agreements as the context shall require with respect to new sites.
Eligible Assignment	Means a role assignment that requires a user to perform one or more actions to use the role.
Estimated Project Cost	Estimated Project cost is Rs /-Crores (Approximately) as per the authority.
Emergency	shall mean conditions or situation that is likely to endanger the safety of the individuals on or about the Project Facilities or which poses an immediate threat of material damage to any of the Project Facilities.
Encumbrances	means any encumbrance such as mortgage, charge, pledge, lien, hypothecation, security interest or other obligations and shall also include physical encumbrances, including utilities both under and above the ground and encroachments on the site.
Extended Period	Extended Period will be the next 30 Years from the date of completion of initial Concession Period of 30 Years.
Equity	shall means the sum expressed in Indian Rupees representing the paid up equity share capital of the Concessionaire for meeting the equity component of the Actual Project Cost, and shall for the purposes of this Agreement include convertible instruments or other similar forms of capital, which shall compulsorily convert into equity share capital of the Company, and any interest-free funds advanced by any shareholder of the Company for meeting such equity component, but does not include Equity Support;
Escrow Account	means an account opened by the authority (Tripartite agreement between the Authority, Concessionaire and Banker. The authority always keeps a minimum amount equivalent to 3 months of Tipping fee.
Event of Default	shall have the meaning ascribed thereto in Article 24.1.
Excluded Waste	Shall mean waste material of the nature that the Project Facilities are not designed or authorized to receive, manage, process and dispose, which include. a. Industrial Hazardous Waste. b. Dead Remains (Animals). c. Construction & Demolition Waste (C&D Waste). d. Biomedical waste.
Existing MSW / legacy waste	shall mean the waste or legacy dumpsite lying in the proposed site planned for Integrated Waste Management Facility.
Financial Closure	shall mean the fulfilment of all Conditions Precedent and the availability of funds under the Financing Agreements.
Financial Year	shall mean the period commencing from April 1 of any given year to March 31 of the subsequent year.
Financing	means the agreements executed by the Concessionaire in respect of

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Documents or Financing Arrangements	financial assistance to be provided by the Senior Lenders by way of loans, guarantees, subscription to non-convertible debentures, bonds, and other debt instruments, security agreements, and other documents relating to the financing (including refinancing) of the Project.
Financial Proposal	Means a statement indicating the preliminary estimate of cost of construction, operations, fund available from Authority, if any for the project
Force Majeure	or Force Majeure Event" shall mean an act, event condition or occurrence as specified in Article 21.
Fraudulent Practice	Means a misrepresentation or omission of facts or disclosure of incomplete facts, in order to influence the Selection process.
GoK	shall mean the Government of Karnataka
GoI	shall mean the Government of India
Good Industry Practice	means the practices, methods, techniques, designs, standards, skills, diligence, efficiency, reliability and prudence, which are generally and reasonably expected from a reasonably skilled and experienced operator engaged in the same type of undertaking as envisaged under this Agreement and which would be expected to result in the performance of its obligations by the Concessionaire in accordance with this Agreement, Applicable Law, and Applicable Approvals, in a reliable, safe, economical, and efficient manner.
Hazardous Waste	shall have the meaning as defined under the Hazardous Wastes (Management and Handling) Rules, 1989 and as amended thereto.
Implementation period	Shall mean the time period after obtaining the CTE / Environmental Clerance or any clearance required to the COD of Processing & Disposal Facility.
Implementation Schedule	shall mean the Implementation Schedule to be prepared as a part of DPR with specific milestones for operationalization of activities/ Project Facilities on or before COD Integrated Waste Management Facility;
INR, Re, RS	Means "Indian Rupee(s)"
Industrial waste	Materials discarded from industrial operations or derived from manufacturing processes.
Independent Engineer	shall be a third party, which is either a company, corporation, partnership, joint venture, trust, unincorporated organization, authority body or any other legal entity as may be nominated who shall be the nodal person for supervision and monitoring of compliance by Concessionaire with respect to the Construction Requirements and O&M Requirements, more particularly to undertake, perform, carry out the duties, responsibilities, services and activities set forth in the bid documents consisting of this Agreement and the RFP
Inerts	Wastes which are not bio-degradable, recyclable or combustible and includes non-recyclable fraction of construction and demolition waste, street sweeping or dust and silt removed from the surface drains.
Integrated Waste Management Facility	Shall mean the facilities for weighing, post segregation, material recovery, processing of all kinds municipal solid waste received from

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	the project Area having technology of storage, segregation, wet and dry waste processing facility, Material Recovery facility and disposal of RDF and Inerts disposal in a Scientific Engineered Landfill.
Integrated Waste Management facility - Operations Period	Shall mean the period commencing from the COD of Integrated Waste Management Facility and ending with expiry of Concession Period, Extended Period or Termination Date, whichever is earlier.
Interim Phase	Shall mean the period commencing from the date of achieving of the Conditions Precedent as certified by the Independent Engineer and approved by the Authority, which phase continues till the COD of Integrated Waste Management Facility.
Joint Bidding Agreement	Means an agreement under which the parties agree to work together to submit a tender for a project
Joint Venture /Consortium/ LLP	Joint Venture means a business arrangement in which two or more parties agree to pool their resources for the purpose of accomplishing a specific task. Consortium means a group of companies or people with the same goal who are working together to achieve that goal. LLP means a business structure where each partner's liabilities are limited to the amount, they put into the business
Key Personnel	Means people who are essential to carrying out the work for the subject project as indicated in this RFP
LOA	Shall mean the letter of acceptance/award issued by the authority to the successful Applicant / Bidder.
Landfilling	means the disposal of the Residual Inert Matter and Rejected Wastes at the Landfill Site in accordance with the terms of this Agreement.
Lead Member	Means an entity designated to be the lead member by the members of a consortium or a joint venture (whether incorporated or not) for submitting the bid/proposal on behalf of such consortium or joint venture, as may be applicable.
Material Adverse Effect	means a material adverse effect on (a) the ability of either Party to exercise any of the rights to perform / discharge any of its duties / obligations under and in accordance with the provisions of this Agreement and / or (b) the legality, validity, binding nature or enforceability of this Agreement.
Material Breach	shall mean a breach by either Party of any of its obligations under this Agreement which has or is likely to have a Material Adverse Effect on the Project and which such Party shall have failed to cure.
MSW or Municipal Solid Waste	means solid waste generated by households, public services, agricultural activities, commercial establishments and industries and shall include Solid Waste, and Organic Waste, but shall not include the Excluded Wastes.
MSW Rules	shall mean the Municipal Solid Waste (Management and Handling) Rules, 2016 framed by the Authority of India under the Environment (Protection) Act, 1986 (Act 29 of 1986) and includes any statutory Amendments / modifications thereto for re-enactments thereof, for the time being in force;
MRF	A facility where non-combustible solid is segregated, sorted for

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	recovery of various components of waste by informal sector of waste pickers or any other work force engaged for the purpose before the waste is delivered or taken up for its processing or disposal.
MSW Supply / Project Area	Means the geographical / jurisdiction of Bengaluru Solid Waste Management Limited / Bruhat Bengaluru Mahanagara Palike or any extended area or any future delimited area of "BBMP"
O&M Requirements	shall mean the requirements as to operation and maintenance of the Project Facilities set forth in Schedule 4.
Organic Waste	means such type of Waste that can be degraded by microorganisms but shall not include Excluded Wastes.
Other Inert	shall mean the wastes which are not bio-degradable, recyclable or combustible and includes non-recyclable fraction of construction and demolition waste, street sweeping, or dust and silt removed from the surface drains.
Parties	shall mean the parties to this Agreement and "Party" shall mean either of them, as the context may admit or require.
Person	shall mean (unless otherwise specified or required by the context), company, joint venture (group of companies) (the Consortium).
Performance Security	shall mean the guarantee for performance of its obligations to be furnished by Concessionaire in accordance with Article 9 of DCA
Plastic waste	Any plastic product such as carry bags, pouches or multi layered packages which have been discarded after use or after their intended life is over.
Plant	shall mean the apparatus and machinery for carrying on the activities required for the Project, fixed or movable, but excluding consumables and premises.
Power Tariff	Rate of power in INR/Unit purchased by the power procurer / distribution company, generation board or any procurement agency from the Concessionaire.
Political Event	shall have the meaning set forth in Clause 21.3 of DCA.
Post Closure Activities	shall mean the activities to be undertaken by Concessionaire after closure of each landfill cell as certified by Independent Engineer
Preliminary Notice	means the notice of intended Termination by the Party entitled to terminate this Agreement to the other Party setting out, inter alia, the underlying Event of Default.
Processing & Disposal Centre	Any establishment wherein the waste management processes namely post segregation, recovery, storage, collection, recycling, processing, treatment or safe disposal are carried out.
Project	shall mean the project for enabling collection, recycling, transportation, recovery of useful products or energy, processing and disposal of MSW and reclamation/alternative use of existing dump sites and for that purpose to design, develop, finance, construct, operate and maintain the Plant under and in accordance with the terms and provisions of this Agreement.
Project Area	shall comprise the Site and for the purpose of implementing the Integrated Waste Processing Facilities, the areas defined in Annexure 1

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	of the RFP during the period of this Agreement.
Project Completion Schedule	means the schedules mutually agreed by Concessionaire and Authority based on handover of Project facilities by the Authority
Project Facilities	means, as the context may require, either all or one or more of the following: (i) collection (ii) transportation, inclusive of transfer stations (iii) the Site (iv) the individual facilities comprising the Plant, namely the Compost Plant, RDF Plant, the Inert Management Facilities, (if Concessionaire decides to develop the same) and the Power Plant, and (v) the landfill and (vi) Reclamation works for alternative use of existing dump sites(vii) landfill gas to energy or compressed biogas (viii) anaerobic digestion- either wet to dry and any other optional facilities being developed by the Concessionaire under the terms & conditions of this Agreement.
Proposal / Bid	Proposal / Bid is the application, or a set of documents submitted by the prospective Applicant / Bidder in line with this RFP.
Professional Personnel	Means the team being proposed for the project which comprises of experts and specialists in the respective domain.
Prohibited Practices	Means any person engaged in the corrupt, fraudulent, coercive, undesirable or restrictive practices in the selection process.
Project	Means the scope of work mentioned in this RFP and to be executed in accordance with the terms and conditions stated in the concession agreement to be entered between the Authority and the Concessionaire.
Proposal Due Date	Means the date, time by which the bid/proposal in response to this this RFP has to be submitted/uploaded by the bidder in the concerned public procurement portal of Authority of Karnataka.
PPP	Means “Public – Private Partnership” involving collaboration between a authority agency and a private-sector company.
RDF	Refuse-derived fuel (RDF) refers to the high calorific non- recyclable combustible fraction of processed MSW, which is used either as a fuel for steam and electricity generation or as alternate fuel in industrial furnaces and boilers. The composition of RDF is a mixture that has higher concentrations of combustible materials than those present in the parent mixed MSW.
RDF Plant	means the Facility that will be constructed, operated and maintained as part of the Plant, for producing RDF from the MSW.
Recycling	The process of transforming segregated waste into a new product or a raw material for producing new products.
Reserve fund	A Reserve Fund is an amount equivalent to 3-month Tipping Fee always maintained in the Escrow Account by the Authority for meeting the regular Operation and Maintenance (O&M) payments to the Concessionaire.
Residual Inert Matter	means the waste matter obtained after processing of the MSW by each of the relevant Project Facilities.
Residual Solid Waste	means & includes the waste & rejects from the solid waste which are not suitable for recycling & further processing.
Request for Proposal	shall mean Request for Proposal document issued by the

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or RFP	Authority for the Project for participating bidders.
Rupees or Rs	refers to the lawful currency of India.
Sanitary Landfill	The location where inert waste is deposited after processing the Waste shall be constructed and operated as per the relevant s of Solid Waste management Rules 2016.
Sanitary Landfill Facility (SLF)/ Landfill for Integrated Waste Management	shall mean the facility designed and developed with protective measures against pollution of ground water, surface water and air fugitive dust, wind-blown litter, bad odour, fire hazard, bird menace, pests or rodents, greenhouse gas emissions, slope instability and erosion for the disposal of Residual Inert Matter
Sanitary Waste	Wastes comprising of used diapers, sanitary towels or napkins, tampons, condoms, incontinence sheets and any other similar waste.
Secondary Collection	shall mean collection of MSW from any point other than Primary Collection.
Segregation of Waste	As per MSW Rules 2016, Point # 3.2 The waste should be segregated by waste generators into three fractions: wet (green container), dry (white container), and domestic hazardous waste (black container). The Authority will collect from door step and transport in a segregation manner and transfer into the segregated containers placed at CTPs at various locations or directly to any other facility as designated by the authority or as per the operational requirement.
Selection Process	means the tender process steps generally include the call for submissions, the bid submission, award of the work and execution of the contract
Senior Lender	means the financial institutions, banks, multilateral lending agencies, trusts, funds and agents or trustees of debenture holders, including their successors and assignees, who have agreed to guarantee or provide finance to the Concessionaire under any of the Financing Agreements for meeting all or any part of the project cost and who hold charge on the assets, rights, title and interests of the Concessionaire.
Signing Date	Shall mean the date of signing of this concession agreement by the parties
Site	shall mean the land as per Article 10 for developing Integrated Solid Waste Management Facility at the location
SPCB	Shall mean State Pollution Control Board: specifically, Karnataka State Pollution Control Board.
SPV	shall mean the special purpose Vehicle company for signing the concession agreement and executing the contract and all purposes meaningfully mentioned in the relevant clauses for SPV in RFP/DCA.
Successful Bidder	Shall mean participating applicant / bidder selected by the Authority, through a competitive bidding process for implementing the Project and who shall incorporate the required “SPV” under the Companies Act 2013.
Successful Bidder/Applicant	Shall mean the entity or group of entities / consortium who has been selected by the authority to sign the Concession Agreement with the authority and to implement the project.

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Supplementary Fuel	shall mean any fuel as a supplement to the MSW to enrich the RDF and/or to directly support the operation of power plant.
Specification and Standards	shall mean the specifications and standards relating to the quality, quantity, capacity and other requirements for the Project Facilities, as set forth and any modifications thereof, or additions thereto, as included in the design and engineering for the Project Facilities submitted by the Concessionaire to, and expressly approved by, the Authority;
State	shall mean the Government of Karnataka State
State Government	State Government means Government of Karnataka.
Statutory Auditor	Means an auditor appointed under the applicable laws
Substitution Agreement	shall mean an agreement between two parties in which one party agrees to replace the other if they are unable to complete their obligations or meet the financial obligation of the project.
Taxes	shall mean and includes any Indian taxes including excise duties, customs duties, value added tax, sales tax, local taxes, cess and any impost or surcharge of like nature (whether Central, State or local) on the goods, materials, equipment and services incorporated in and forming part of the Project charged, levied or imposed by any Authority Agency, but excluding any interest, penalties and other sums in relation thereto imposed on any account whatsoever. For the avoidance of doubt, Taxes shall not include taxes on corporate income.
Technical Proposal	Means document that outlines how you will deliver a specific project or service to a client or customer. It is often required for bidding on contracts, grants, or tenders, and it should demonstrate your expertise, approach, and value proposition.
Term of the agreement	means 30 years from the date of COD of Processing & Disposal Plant or Waste to energy Plant and further extendable for another 30 years. Post closure period of the land fill is for 15 years from the date of issue of completion certificate for each land fill cell. For the purpose of clarity, land fill construction is modular and each cell needs post closure maintenance upon capping. The last cell that will be capped at the end of the term shall also be maintained for the terms of 15 years by the Concessionaire.
Termination	Shall mean early termination of this Agreement pursuant to Termination Notice or otherwise in accordance with the provisions of this Agreement but shall not, unless the context otherwise requires, include expiry of this Agreement due to efflux of time in the normal course.
Termination Date	shall mean the date specified in the Termination Notice as the date on which Termination occurs / comes into effect.
Termination Notice	Shall mean the notice of termination by either Party to the other Party, in accordance with the applicable provisions of this Agreement.
Termination Payment	means the payments payable pursuant to Article 25.1 & 25.2 of this Agreement.
Tests	shall mean the tests to be carried out in accordance with the Construction Requirements or the O&M Requirements and generally conform to the nature of construction & operation as per standard

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	practice.
Transfer station	A permanent facility at various locations of project area, where the waste is taken from smaller collection vehicles and placed in larger vehicles for transport, including truck trailers, railroad cars, or barges. Recycling and some processing activity may also take place at transfer stations.
Tipping Fee	Shall mean the amounts payable by the Authority to Concessionaire for the services rendered under the scope of this project and this concession agreement.
Turnover	Means Gross earnings of a firm fined as the billings for contract work in progress and/or completed, normally expressed on an annual basis, and excluding the income from other sources
Vacant Possession	means delivery to Concessionaire of possession of the lands constituting the Project sites free from all Encumbrances and the grant of all easement rights and all other rights appurtenant thereto.
Waste generators	Shall mean all residential, commercial establishments, institutions, hospitals (solid waste), offices, small industries (non-hazardous) from where municipal solid waste is being generated within the Project Area.
Waste or SWM or Solid Waste Management	Solid Waste includes commercial, residential and other waste generated within the limits of Bruhat Bengaluru Mahanagara Palike, either in solid or semi-solid form excluding industrial hazardous waste. The term Solid Waste shall further mean the Municipal Solid Waste as described under the Solid Waste management (SWM) 2016 notified by MoEF & CC, Govt. Of India, notified on 08 April 2016, generated in the Project Area by all generators which includes domestic waste, sanitary waste, commercial waste, institutional waste, catering and market waste and other non-residential wastes, street sweepings waste, silt removed or collected from the surface drains, horticulture waste, agriculture and dairy waste in the project area inclusive of private markets, recreation centres, public places and from the places of occasional accumulation of such solid waste. visceral remains, hides, hoofs or such other animal parts which are found within the Project Area, but not including waste from abattoirs and tanneries.
Waste to Energy	The facility / process of extracting useful energy from waste, typically from the heat produced by incineration or any other process by way of processing the waste and generate energy either in the form of electricity or biogas/ bio CNG etc.
Wet Waste	Wet Waste refers to all waste items that are organic like food items, soiled food wrappers, hygiene products, yard waste, tissues and paper towels, as well as any other soiled items that would contaminate the recyclables
Weighbridge	means the electronic weighbridge capable of performing the operations specified in Article 2.
Writing	Means for the purpose of this document, any authentical handwritten, typed or printed, communication including, telex, cable, electronic mail, facsimile transmission with proof of receipt, when requested by the sender.

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In witness whereof, the parties hereto have signed this Agreement on this day of 2024.

[Name of the Authority)

By: Name:

Title:

Title:

[Name of the Concessionaire]

By: Name:

Title:

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GOVERNMENT OF KARNATAKA

SCHEDULES

VOLUME: III

APPOINTMENT OF CONCESSIONAIRE ON TIPPING FEE BASIS TO EXECUTE THE COMPREHENSIVE INTEGRATED SOLID WASTE MANAGEMENT (ISWM) FACILITIES INCLUDING SECONDARY TRANSPORTATION OF MSW FROM TRANSFER STATIONS TO DESIGNATED PROCESSING CENTERS AND FURTHER PROCESSING AND DISPOSAL OF THE SAME

in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (*PPP mode – DBFOT Model*)

(Call-2)

BENGALURU SOLID WASTE MANAGEMENT LIMITED (BSWML)

No. 30/1, 1st and 2nd Floor, UNI Buildings, Thimmaiah

Road, Vasanth Nagar, Bengaluru – 560002.

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SCHEDULE 1- SCOPE OF SERVICES
(See Article 2)

1.1. Name of the work

Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same.

North Package: comprises of the 4 Zones of BBMP – Yelahanka, Dasarahalli, West, and, East, along with neighboring areas of the Bangalore Urban District;

1.2. Introduction

An Integrated Solid Waste Management (ISWM) facility has been conceptualized to offer a comprehensive solution for the processing of solid waste generated in Bengaluru City, at various locations as per project requirements. The ISWM Project involves secondary transportation of municipal waste and further processing solid waste into new or recycled products through methods such as composting, bio-methanation, waste-to-energy from RDF, pelletization, or other proven technologies, in accordance with the standards outlined in the Background Documents, Solid Waste Management Rules 2016, NGT orders, SBM 2.0, and other applicable laws and amendments during the concession period.

The aim is to process all waste generated and generate revenue by applying circular economy principles, thereby reducing the burden on landfills. This shall be achieved through an integrated system of secondary transport, processing and disposal. The entire system shall comply with the Solid Waste Management Rules, 2016 and meet the KPIs outlined in Article 19 of the DCA.

The scope of the Project (the—Scope of the Project) shall mean and include, during the Concession Period, Design, Build, Finance, Operate and Transfer (DBFOT) of facilities and infrastructure for:

a. Transportation of MSW from the Transfer Stations
b. O&M and Maintenance of Transfer Stations
c. Design, Development, Operation, Maintenance, and Management of Integrated Processing Facility for MSW

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d. Design, Development, Operation, Maintenance, and Management of Sanitary Landfill for disposal of remnants and residual inert matters from processing of MSW

e. Generation of revenue from sale of reusables and recyclables (if any), sale of by-products or output from processing of MSW (like gas, electricity, etc.), and generation of financial benefits from carbon credits

1.2.1. **Secondary collection, segregation, and transportation of MSW**

The Concessionaire shall be responsible for the following tasks related to Secondary Transportation, starting from at least [90 (ninety)] days prior to COD, or within 90 (ninety) days from the date of handover of the Transfer Station(s) to the Concessioniare in that division.

a. **Transportation of MSW from the Transfer Stations:** The Authority/Authority's agencies will bring in MSW generated in the Project Area and the waste collected from the street sweeping activity to the Transfer Stations. The Concessionaire shall be required to transport the waste from the Transfer Stations, starting from the Date of Commercial Operation (considering Mobilization Period as per the Agreement) or from the handover of the Transfer Station, whichever is later till the expiry of the Concession Period. The same shall be done in an order to ensure the following:

i. **Transport to Concessionaire's processing facilities:** Concessionaire shall be responsible to conduct Secondary Transportation from the transfer stations to their designated waste processing and disposal site(s) (Note: There are some divisions where Transfer Stations exist and are being operated by another agency contracted by the Authority, wherein the responsibility for Secondary Transport will be handed over to the Concessionaire at the expiry of the existing contracts. More details are given in Annexure 1 of the PIM.)

ii. **Integration with existing plants for BSWML**: Concessionaire shall be responsible to conduct Secondary Trasport from the notified Transfer Stations to Existing plants where BBMP has existing commitments (Annexure 1 of the PIM for details regarding location, capacity and type of waste required, tagging with transfer stations, duration of commitment)

iii. **Integration with Dry Waste Collection Centers (DWCCs):** Concessionaire shall be required to collect the dry waste from the DWCCs and perform Secondary Transport from the DWCCs to the designated waste processing and disposal site(s) after extraction of recyclable materials by ragpickers. Refer Annexure 1 of PIM for details regarding DWCCs in the package, location, capacity, assets included, layout, manpower engaged, etc. These will continue

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to be operated by the ragpickers associations, as per current scenario.

b. **Operation & Maintenance and Management of Transfer Stations:** Some Transfer Stations in this package are currently operational and operated by agencies contracted by the Authority. Refer Annexure 1 of the PIM for details regarding the current operator, assets in place, layout, duration of existing contract and scope of work for each of them. These (and the responsibility for Secondary Transportation under these Transfer Stations) will be handed over to the Concessionaire after a period of 5-7 years, as soon as the current agreement expires. Until such time, the Concessionaire will not be responsible for operation of Transfer Station or to perform Secondary Transport in these respective areas.

Wherever a Transfer Station doesn't currently exist, Authority shall be responsible to construct and handover Transfer Stations to the Concessionaire at their own cost, including civil structures, machinery, containers, hookloaders, etc. The Authority plans to develop such Transfer Stations in this package within the next 1-2 years. Refer Annexure 1 of PIM for details regarding location, capacity, details regarding assets and layout of the planned Transfer Stations. . As soon as a new Transfer Station is constructed, it shall be handed over to the Concessionaire along with scope of Secondary Collection & Transportation in that area. Until such time, the Secondary Transportation in that area shall be done by the Authority/contractors of the Authority engaged in Primary C&T. (All the Transfer Stations, existing and new, being handed over shall include hook-loaders and containers provided by the Authority, on an as-is, where-as basis.)

Until the facility COD is achieved, the Concessionaire shall transport waste from the new Transfer Stations to designated place as notified by the Authority within the aggregate lead distance considered.

Irrespective of the date of handover of the Transfer Stations to the Concessionaire, all Transfer Stations and the scope of work therein shall be handed back to the Authority 30 years from the date of the COD of the processing & disposal facility.

The Authority shall have no obligation to perform any additional capital expenditure towards the Transfer Stations of vehicles over the course of the Concession Period pertaining to the Project Area, and the same shall be in the scope of the Concessionaire.

1.2.2. Processing & Disposal of MSW as per SWM Rules

a. **Design, Development, Operation, Maintenance, and Management of Integrated Processing Facility**: It is proposed to develop new facilities for Processing & Treatment of MSW as per MSW Rules and other applicable regulations for MSW processing, resource recovery, treatment, and disposal (P&D) facilities. Concessionaire shall develop the Project Facilities using technology or technologies that it had

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proposed in its Bid to the RFP, adhering to Solid Waste Management Rules, 2016 and in accordance with terms of this Agreement. Concessionaire shall be responsible for Construction of the Integrated Processing Facility within 24 months from handover of the site or getting Environmental Clearance and Consent to Establish, whichever is later,; and operating the same for 30 years post COD.

b. **Design, Development, Operation, Maintenance, and Management of Sanitary Landfill for disposal of remnants and residual inert matters from processing of MSW:** It is proposed to develop new sanitary disposal landfill and a leachate treatment

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plant (LTP) for management of inerts to be landfilled after processing of MSW. Concessionaire shall be responsible to transport inert and post-processing inert materials from their own processing sites to the landfills. Concessionaire shall be responsible for Construction of the Sanitary Landfill and the Leachate Treatment Plant (as per discretion of the Concessionaire) within 24 months from handover of the site or getting Environmental Clearance and Consent to Establish, whichever is later; and operating the same for 30 years post COD. Furthermore, the Concessionaire shall be responsible for performing post-closure activities as per prevailing guidelines of Central Pollution Control Board, State Pollution Control Board, SWM Rules, etc. over the next 15 years to ensure proper closure of the landfill.

c. The **revenue or income from the sale of segregated useful materials**, including reusable and recyclable materials (if any), compost, soil conditioner, raw RDF, C&D waste, soil, power, electricity, or any other by-products, shall accrue to the Concessionaire. The Concessionaire shall also be responsible to take necessary action to accrue benefits from Carbon Credits, and subsequently share 50% of the benefits accrued from the Carbon Credits of the Project with the Authority.

1.2.3. **Bulk Waste management:**

a. The management of bulk waste shall not be included within the Concessionaire's scope. However, the Concessionaire shall be empaneled as an Authorized Waste Processor for bulk waste as per existing bylaws of the BBMP and BSWML and encouraged to collect, transport, and process bulk waste at the ISWM facility. The Concessionaire shall be allowed to charge a Service Fee to BWGs, in line with the "Polluter Pays" principle of SWM Rules, 2016. The Concessionaire is to conduct their own analysis and survey of the bulk waste generated to ascertain the processing capacity of the plant(s) required.

b. Since this is a commercial activity conducted on government land, the Concessionaire shall remit INR 800 per TPD of bulk waste handled. This amount shall be escalated by 5% every year in line with the escalation in the tipping fee).

All BWGs shall be audited by the Authority/BBMP as per prevailing regulations and reporting requirements. Those entities found deficient shall be directed to employ the services of the Concessionaire for the purpose of management of the bulk waste generated by them.

1.3. Planned Project Capacity

1.3.1. The comprehensive Integrated Solid Waste Management (ISWM) Project is intended to cover the entire jurisdictional area encompassing the full extent of BBMP limits and the Bengaluru Urban District area. This area is distributed across two packages, with the jurisdiction pertaining to North Package detailed more precisely and annexed as Annexure-I of the RFP.

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1.3.2. Based on 2011 Census data, waste generation (excluding bulk waste) within the Project Area has been projected for 2030. While the facility is expected to commence operations around the year 2028, the waste generation estimates have been calculated for 2030 in order to account for full operational capacity and long-term planning.

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North Package: By 2030, the total municipal solid waste from households and street-sweeping activities—excluding bulk waste—is expected to be 4,047 tonnes of waste per day (TPD). Of this, 976 TPD is already committed to existing facilities for P&D. Once these commitments are accounted for, the Package shall have to deal with 3,822 TPD for Secondary Transportation and 3,073 TPD for Processing and Disposal.

1.3.3. The proposed planned capacity has been assessed and planned to meet the projected demand of Year 2030. Due to variations on a daily basis, the Concessionaire must accept maximum up to 125% of the Planned Capacity on any given day. As the waste generated within the Project Area increases over time, the Authority shall be free to execute other processing and/or disposal projects by calling tenders; wherein the Concessionaire shall have the First Right of Refusal for participation in such tenders, provided that the Concessionaire bids within 10% of the Preferred bidder. For the avoidance of doubt, it is hereby clarified that, for any new tenders pertaining to Processing and/or Disposal of municipal solid waste in the Project Area, the Concessionaire shall be invited to match the bid of the Preferred bidder, subject to the condition that the Concessionaire's bid is within 10% of the Preferred bidder.

1.3.4. The Authority shall provide a Minimum Waste Guarantee, i..e, minimum amount of waste that shall be delivered to the Transfer Stations (excluding the amount committed to existing plants) equal to 50% of the Planned P&D Capacity in the first 5 years after COD, and equal to 75% of the Planned P&D Capacity thereafter. This shall include the waste from Bulk Waste Generators, if any, accepted for processing by the Concessionaire.

Planned Capacity	Secondary Transportation (TPD)	Processing & Disposal (TPD)
North Package	3,822	3,073

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1.4. Detailed Scope of Work:

1.4.1. Scope of work for Secondary Transportation:

1.4.1.1. The average trip distance considered for secondary transportation—from the Transfer Station to the entry point of the processing plant up to the weighbridge—is estimated at 75.00 kilometers for North Package. However, this distance may vary depending on the final locations of the Transfer Stations and the processing facility. In cases where the actual average trip distance varies by more than 10% from the estimated average, the additional lead distance for secondary transportation shall be considered for reimbursement, subject to the prior approval of the Authority. The final average trip distance shall be established based on the confirmed location of the weighbridge at the processing plant.

1.4.1.2. Secondary transportation shall be executed using large-sized static compactors capable of compressing municipal solid waste. Leachate generated during the compaction process shall be collected through designated leachate collection pits. The compacted waste shall be stored in containers provided by the static compactors and transported using hook loaders.

1.4.1.3. The Concessionaire shall submit a comprehensive plan and route map detailing the methodology for the secondary transportation of Municipal Solid Waste (MSW).

1.4.1.4. The jurisdictional area under the scope of this North **Package** comprises sixteen (16) divisions. Each division shall be provided with a Transfer Station, to be developed by BSWML and subsequently handed over to the respective Concessionaire for that jurisdiction. a Project level, three (3) transfer stations are currently under AMC contracts with a tenure of seven years. Upon termination of these contracts and based on mutual consent between the Authority and the Concessionaire, these transfer stations shall be handed over on an as-is basis, along with the Secondary Transportation (C&T) scope under the corresponding ISWM package. Four (4) new transfer stations, currently under construction, shall be handed over to the Concessionaire along with the Secondary Transportation scope of the respective ISWM package. The additional transfer stations required under the respective package shall be developed by the Authority at its own cost and handed over to the Concessionaire in a phased manner, along with the corresponding Secondary Transportation responsibilities. The same shall be completed within the first 2 years from the Execution Date. Package-wise details of the Transfer Stations are provided in Annexure 1 of PIM.

1.4.1.5. The operation and maintenance of Transfer Stations handed over to the Concessionaire shall be the sole responsibility of the Concessionaire throughout the Concession Period.

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1.4.1.6. MSW operations are essential in nature and should have a continuity without any

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interrupt. The Concessionaire should work out a detailed plan with the Authority. The detailed transition plan shall be submitted by the Concessionaire within 90 days of appointment date and approved by the Authority and the same shall be implemented. While implementing the transition plan there should be a smooth and seamless handing over and taking over of the operations and public should not get any inconvenience of disruption of service.

1.4.1.7. The Concessionaire shall be responsible for identifying suitable land parcels and establishing the required infrastructure, including vehicle parking yards, workshops, canteens, and administrative buildings, in accordance with operational and regulatory requirements. These facilities are to be developed in each Zone at the Concessionaire's own cost and maintained in compliance with prevailing statutory and safety norms. The Concessionaire shall indemnify the Client against any liabilities arising from fire, health, or environmental hazards at these locations.

1.4.1.8. The commencement of Secondary Transportation activities shall be undertaken by the Concessionaire in a phased manner, subject to the completion or termination of contracts that may be active within each respective Zone.

1.4.1.9. The Concessionaire shall initiate the operation and maintenance of Transfer Stations, including storage, handling of waste, and transportation of Refuse-Derived Fuel (RDF) from designated Dry Waste Collection Centers (DWCCs) (as per Annexure 1 of PIM) to the Project facilities or to the existing commitment plants (as per Annexure 1 of PIM), immediately upon execution of the Concession Agreement. Delays in commencement of any activity under the agreed scope of work shall attract penalties in accordance with the Key Performance Indicators (KPIs) specified under Article 19 of the Concession Agreement.

Compliance

a. Each vehicle must display the designated route map and be integrated with the Integrated Command and Control Centre (ICCC) of the Authority via the Concessionaire's own software. The Concessionaire shall be responsible for completing all necessary activities, including obtaining statutory clearances related to land development, and mobilization/procurement of equipment, vehicles, machinery, and other resources essential for the transportation of MSW from the BBMP jurisdiction and Bengaluru Urban District areas, as specified for North Package in Annexure-1 of the RFP document.

b. The Concessionaire shall provide real-time data feeds and monitoring capabilities to BSWML to ensure continuous oversight of vehicle movements and operational transparency throughout the concession period.

c. A Vehicle Tracking and Management System (VTMS) shall be mandatorily installed on all vehicles, containers, and weighbridges used for MSW transportation and post-processing reject disposal. The VTMS shall be a web-based application

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with real-time GPS tracking, GIS integration, and client-side connectivity at all key locations, including the weighbridge.

d. The Concessionaire shall supply all necessary hardware and infrastructure, including personal computers/laptops, printers, GPS devices, network links, SIM cards/dongles, and antivirus software. VTMS data shall be integrated with BSWML's municipal server via the IT Department, and training shall be provided to municipal and Authority staff. Vehicles shall be equipped with loading/unloading switches. Availability of VTMS data shall be a mandatory requirement for tipping fee disbursement.

e. All vehicles must be fully connected to the BSWML server through VTMS to enable uninterrupted tracking and monitoring. Each vehicle shall also be fitted with a GPS device that remains operational at all times, with the live feed integrated into BSWML's monitoring platform and website.

f. All vehicles deployed shall comply with prevailing emission norms, and valid Fitness Certificates (FCs) must be obtained from the RTO as per statutory requirements.

g. Noise and air pollution levels shall be monitored in line with norms prescribed by the RTO and Karnataka State Pollution Control Board (KSPCB). Relevant certificates shall be obtained periodically and prominently displayed on each vehicle.

1.4.2. Scope of work for Processing and Disposal:

1.4.2.1. The Estimated waste quantum of the package has been arrived as 3,073 TPD for North Package towards Processing & Disposal which excludes bulk waste to be transported as well as discounts the Waste to be supplied to the existing commitments of corresponding package.

1.4.2.2. The Concessionaire shall prepare a comprehensive proposal for processing the total estimated waste, and undertake the design, development, operation, and maintenance of new integrated Solid Waste (SW) Processing, Resource Recovery, Treatment, and Disposal (P&D) facilities. The proposal shall incorporate appropriate technologies for processing the waste received at the plant. The technologies proposed must be in line with those approved under SWM Rules, 2016 (or any amendments thereof), or any other technologies approved by the CPCB, State PCB, or other relevant statutory bodies in India or abroad.

1.4.2.3. The Concessionaire shall undertake the planning, engineering, designing, construction, operation, and maintenance of MSW Processing, Resource Recovery, Treatment, and Disposal (P&D) facilities, including a scientifically engineered sanitary landfill, Leachate Treatment Plant (LTP), and all auxiliary infrastructure such as stormwater drainage, internal roads, weighbridges, vehicle parking yards, workshops, canteens, administration buildings, laboratories, and other appurtenant

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structures as per operational and regulatory requirements.

1.4.2.4. The Concessionaire shall establish the required number of processing/ resource recovery projects, which may include waste-to-energy projects, bio-methanation, composting, compressed bio-gas (CBG) projects, MRF facilities, or any other suitable and sustainable technologies. These technologies must conform to SWM Rules, 2016 (or any amendments thereof), or be approved by the CPCB, State PCB, or other statutory bodies, and shall be implemented either at locations indicated by the Authority or at alternative sites approved by the Authority.

1.4.2.5. The Concessionaire shall install weighbridges at both the entry and exit points of the processing plant. Both weighbridges shall be synchronized with GPS and RFID mechanisms, at locations and configurations as deemed appropriate and mutually agreed upon with the Authority.

1.4.2.6. The Concessionaire shall also develop waste management facilities for the treatment and disposal of dead animals, sanitary waste, and any other waste types as authorized by the Authority as per the SWM Rules of 2016.

1.4.2.7. The successful Bidder is at liberty to choose the Proven and demonstrated technology in the beginning and during the course of the project. Any advanced technology which can improve the performance shall be permitted unconditionally. The technologies may be Compost / RDF / Waste to Energy / Bio Methanation / Dry Methanation / Pyrolysis / Plasma or any other technology which is proved and can be implemented to improve the processing and disposal is within the scope of the Concessionaire but should meet the SWM Rules, 2016 & SBM 2.0 guidelines.

1.4.2.8. Authority desires that its Solid Waste Management system shall be a 'model system' for the Country, which would scientifically collect waste from waste generator and bulk generators, transport, process and dispose of Municipal Solid Waste to have maximum recycling and recovery, Without prejudice to the generality of the foregoing, Concessionaire shall have the right to develop the Project Facilities using such technology that it considers suitable and commercially viable for the purposes of implementing the Project, in accordance with terms of this Agreement and Applicable Law. It is acknowledged that it is the intention of Concessionaire to use the technology associated with the concept of an integrated waste processing plant, the specifications of which are given in schedule 23, and that Concessionaire shall have the right to modify, adapt, upgrade or change the technology, from time to time, based on actual operations of the Plant and requirements of the Project.

1.4.2.9. The revenue or the income from the sale of the segregated useful material such as reusables and recyclables, compost, soil conditioner, user charges from bulk waste generators, raw RDF, C&D, Soil, sale of power, electricity or any other by-product materials shall be in the scope of the Concessionaire and Concessionaire shall take such additional revenue into account while estimating the

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tipping fee sought.

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1.4.3. Items excluded from Scope of work

The following nature of scope is not considered as the part of Concessionaire's scope of work under this Agreement:

1.4.3.1. Receive, manage, process or dispose Bulk Waste Generated

1.4.3.2. Receive, manage, process or dispose Biomedical Waste Management

1.4.3.3. Receive, manage, process or dispose Industrial Waste Management

1.4.3.4. Sweeping of streets (Manual and/or Mechanical)

1.4.3.5. Drain cleaning / Silt clearing

1.4.3.6. Maintenance / cleaning of parks

1.4.3.7. Maintenance of public places / toilets

1.4.3.8. Removing and Transportation of carcasses (dead animals)

1.4.3.9. Management of Domestic Hazardous Waste: Hazardous waste such as physical, chemical, biological, reactive, toxic, flammable, explosive, or corrosive waste, if found, during excavation, sorting or segregation shall be stored in a separate area for inspection by authorities of the Municipal Corporation, which will arrange to shift, transport, and dispose by authority as per the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016.

It is hereby clarified that the Concessionaire may undertake management of bulk waste and/or domestic hazardous waste as per the applicable rules and regulations at no cost to the Authority, and at their own discretion.

1.5. Role of Authority (BSWML):

a. The Authority shall initiate and implement appropriate processes to expedite land acquisition required for the development of the Integrated Solid Waste Management (ISWM) processing and disposal facilities.

b. The Authority shall ensure the smooth transition and handover of all relevant existing project facilities, including fixed and mobile assets related to municipal solid waste management. This shall include, but not be limited to Facilities for Secondary Transportation, as applicable.

c. The Authority will provide suitable, sufficient and encumbrance free land for construction of Integrated processing & disposal facilities and all other facilities required for the entire term of the agreement at permissive use only (Article-10.1). The details of the potentially available land parcels are annexed as part of the RFP.

d. The Authority shall permit the Concessionaire to utilize and obtain utilities necessary for the construction and operation of the project facilities, subject only to payment of applicable user charges, without levying any additional fees.

e. The Authority shall provide institutional support by issuing required letters or

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endorsements to concerned departments and facilitating the execution of necessary agreements between the Concessionaire and relevant agencies involved in the ISWM

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project.

f. The Authority shall ensure timely payments of all dues payable to the Concessionaire under this Agreement, in accordance with the prescribed timelines.

g. The Authority shall recognize the Special Purpose Vehicle (SPV) as the legal entity authorized to undertake and perform the rights and obligations of the Selected Concessionaire under this Agreement. The Selected Bidder shall maintain a minimum of 51% (fifty-one percent) shareholding in the SPV throughout the Concession Period. Upon incorporation, the SPV shall be treated as a permitted assignee, and shall enter into a novation agreement with the Authority within 15 days from the date of incorporation.

h. The Authority shall have right over assets and technology in case of termination or expiration of Concession Period, whichever is earlier.

i. The Authority assures to Concessionaire that any of its officers, employees, or workmen shall not, at any time, during the concession period interfere with or obstruct the functioning, running, and overall management of the project and in any matter about or connected therewith.

j. The Authority shall appoint the Independent Engineer within 75 days from the date of signing of the Concession Agreement through a tender process to monitor the project execution and implementation.

k. The Authority will provide necessary support to Concessionaire in securing Applicable Approvals.

l. The Authority shall observe and comply with all its obligations as specified under this Concession Agreement.

1.6. Role of Concessionaire:

a. Design Build Finance Own & Transfer (DBFOT) on Public Private Partnership ("PPP") mode with 100% Concessionaire investment to execute the comprehensive Integrated Solid Waste Management (ISWM) facilities including collection & transportation of MSW from transfer stations to designated processing centers and further Processing and Disposal of the same at designated processing plant within the jurisdiction of the package.

b. To adopt the existing system (to the extent handed over by the Authority) and upgrade, modernize and make user-friendly over a period. To ensure revamping, redevelopment, operation and maintenance of all existing and new facilities including SCTPs, TS, MRFs, Fleets, Vehicle parking yards and workshops etc. To utilize the existing infrastructure like DWCC, vehicles, transfer stations, etc., 'as is where' is applicable.

c. To establish, operate and maintain all facilities for handling, processing and disposal of

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MSW and other wastes as per proposal and in line with relevant Rules for the entire project period.

d. To design, engineer, finance, procure, construct, install, commission, operate and maintain each of the Project Facilities.

e. To choose proven and demonstrated technologies available for processing and disposal of MSW which are permitted as per SWM Rules, 2016, CPHEOO guidelines and SBM 2.0 Guidelines. The Concessionaire is free to choose technology, which is proven, viable and sustainable. To ensure adherence to meet all the construction requirements as per guidelines for construction as per BIS, Solid Waste Management Rules, 2016, and other applicable standards/ guidelines.

f. To undertake operation and maintenance of the project facilities using best in class technology, environmental, health and safety SOP's and a service delivery model either itself or through such Person as may be selected by it that is reliable, cost effective and compliant provided that and the ultimate obligation and responsibility for the performance of this agreement shall continue to vest with the Concessionaire.

g. To undertake storage, usage, marketing, and selling or disposal of all the products and by products generated, produced at the processing and treatment facility (including but not limited to RDF, steam, compost, electricity, methane, CNG/CBG, and Residual Inert Waste, any product or by product) and to generate revenue from the above processes to meet the project requirements

h. To retain all kinds of revenues generated from the sale of such recyclable products (RDF, Sync gas, Steam, compost, electricity, methane, CNG/CBG, and Residual Inert Waste) with no sharing to BBMP or Govt of Karnataka /India state Electricity Distributors companies and its entities.

i. To retain the fiscal incentives and benefits accruing in respect of or on account of the Project including Certified Emission Reductions (CERs) or Verified Emission Reductions (VERs) under Kyoto Protocol / Climate Change initiative, in a ratio of 50:50, wherein half the proceeds shall be shared with the Authority.

j. To undertake Information, Education, & Communication (IEC) campaigns with the public and all stakeholders in BBMP Area to inculcate good MSW management practices, including recycling, and segregation.

k. To interface, synchronize with existing organized and unorganized waste-collection and management systems to ensure that there is a smooth and harmonious transition and working of the systems and proper quality of waste is received at the site.

l. To exclusively hold, possess, and control the Site, in accordance with the terms of the

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Concession Agreement for the purposes of the due implementation of this Project.

m. To transfer the Project Facilities to the Authority at the end of the Term or on Termination, in accordance with the provisions of this Agreement.

n. To ensure optimum utilization of the Site and land available and not use the same for any purpose unconnected or which is not incidental to the Project or related activities, unless otherwise permitted under this agreement. For avoidance of doubt, any land given by BSWML/BBMP to the Concessionaire for this project shall not be used for development of residential or commercial facilities or premises for rent, lease or similar purpose.

o. To mobilize resources for Secondary Transportation within the stipulated time period. Mobilization period for Secondary Transport shall within 03 months before the COD or 3 months from the date of handing over of the Transfer Station, whichever is later. Mobilization period includes time to obtain all the necessary clearances & approvals from relevant authorities and deploy the vehicles & manpower for secondary transportation. If the delay is beyond the control of the Concessionaire, then the mobilization period shall be extended based on the reasons recorded and in such recorded hindrances justified by the engineers in charge or the authorised representative of the Authority.

p. Special purpose vehicle('s) (SPV) shall be established under the Companies Act 2013 for executing the project, where the Concessionaire shall undertake and perform the obligations and exercise the rights of the Consortium/Selected Bidder under the LOA, including the obligation to enter into this Concession Agreement pursuant to the LOA for executing the Project.

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SCHEDULE 2- APPLICABLE PERMITS

(See Article 4)

1. Concessionaire Applicable Permits

S. No.	Applicable Permit	Authority
1.	Temporary Power Connection (During Construction Period)	Electricity Board/ other temporary sources
2.	Consent to Operate	State Pollution Control Board
3.	Consent for storage of hazardous materials	Director of Explosives
4.	Consent Firefighting system	Firefighting Department
5.	CEIG approval – stage 1 for construction & stage 2 on completion of project	Chief Electrical Inspector to Government
6.	Electricity Board approval during various stages – request for load sanction, remittance of deposit, installation of incomings, etc	Electricity Board
7.	Layout and building plan approval	Authority/DTCP
8.	Consent to establish	State Pollution Control Board (SPCB)

The Concessionaire will be solely liable to obtain all Applicable Permits that are necessary for construction, operation and maintenance of the Project Facilities. The Authority shall assist the Concessionaire in obtaining all the required permits.

2. Authority Applicable Permits

S No.	Applicable Permit	Authority
1.	Tree cutting	Forest Department
2.	Road cutting & crossing	Public Works Department
3.	Railway Crossing	Commissioner Railway safety
4.	Revenue road cutting & crossing	Panchayat/Local Authority

The Concessionaire shall proactively assist the Authority in obtaining all the required permits.

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SCHEDULE 3 - SPECIFICATIONS AND STANDARDS

(See Article 5.1)

1. Project Facilities

1.1. The Project Facilities shall conform to the Specifications and Standards as specified in this Schedule and in this Agreement.

1.2. The Specifications and Standards applicable to the design and construction of the Project facilities (including Waste-to-Energy plant, Biomethanation plant, composting units, Sanitary Landfill site, Leachate Treatment Plant, etc. as may be applicable) shall conform with the National Building Code of India, relevant specifications and standards specified by the Bureau of Indian Standards (BIS), International Organization for Standardization (ISO), other Applicable Laws and Good Industry Practice.

The Concessionaire shall adhere to all applicable rules, regulations, acts, guidelines, standards and laws which are applicable for this Project. Some of these important rules, regulations, acts, guidelines, standards, etc. are as follows:

- All applicable rules, regulations, acts, guidelines, standards and laws of Government of India and the State Government
- All applicable Indian Standards (IS)
- All applicable standards by the Bureau of Indian Standards (BIS)
- All norms of the Indian Road Congress (IRC)
- All norms of the National Building Code (NBC)
- SWM Rules, 2016
- Environment (Protection) Act, 1986
- Environment (Protection) Rules, 1986
- EIA Notification, 2006 and amendments
- Guidelines and recommendation of Central Public Health & Environmental Engineering Organisation (CPHEEO), MoUD, GoI
- Electricity Rules, 2005
- Electricity Act, 2003
- Guidelines of the State Electricity Regulatory Commission
- All applicable norms of the Central Electricity Authority (CEA)
- All applicable rules, regulations, acts, guidelines, standards of Central Pollution Control Board (CPCB) and State Pollution Control Board (SPCB)
- Motor Vehicle Act and Vehicle Emission Control
- Labour Laws – Minimum Wages, Contract Labour Abolition and Regulations
- Construction standards by State Public Works Department and ULB and any other state government departments

1.3. ln the absence of any specific provision in this Agreement, the following standards shall apply in order of priority:

(i) [National Building Code
(ii) Bureau of Indian Standards (BIS)
(iii) International guidelines
(iv) Any other specifications/standards/codes proposed by the Concessionaire and reviewed by the Independent Engineer.]

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SCHEDULE 4 - MAINTENANCE REQUIREMENTS

(See Article 5.1)

1. Maintenance Requirements

1) The Concessionaire shall comply with the O&M requirements set out in this Schedule and the Agreement Documents. In doing so, the Concessionaire shall ensure that the Project is operated and maintained to the standards and specifications as set out in the Construction Requirements and also meet the other requirements, if any, set out in the Agreement.
2) In the design, planning and implementation of all works and functions associated with the operation and maintenance of the Project, the Concessionaire shall take all such actions and do all such things (including without limitation, organising itself, adopting measures and standards, executing procedures including inspection procedures, and engaging contractors, if any, agents and employees) in such manner, as will:
    - Ensure the safety of personnel deployed on and users of the Project or part thereof;
    - Keep the equipment and machinery employed for the Project from undue deterioration and wear
    - Permit unimpaired performance of statutory duties and functions of any Party in relation to the Project;
3) During the Concession Period, the Concessionaire shall, in respect of the Project, ensure that:
    - Applicable and adequate safety measures are taken
    - Adverse effects on the environment and to the owners and occupiers of property and/or land in the vicinity of the Project components, due to any of its actions, is minimised
    - Any situation which has arisen or likely to arise on account of any accident or other emergency is responded to as quickly as possible and its adverse effects controlled/ minimised;
    - Disturbance or damage or destruction to property of third party by operations of the Project or Project components is controlled/minimised
    - Data relating to the operation and maintenance of the Project is collected
    - All materials used in the operation, maintenance of any of the Project component shall meet the Construction Requirements;
    - The personnel assigned by the Concessionaire have the requisite qualifications and experience and are given the training necessary to enable the Concessionaire meet the O&M Requirements.
4) The Concessionaire shall finalise the O&M Plan and the O&M Manual for the Project in the manner as set out below:
    - Prior to making application for the Completion Certificate for the Project the Concessionaire shall finalise in consultation with the Independent Engineer:
        - The O&M Manual (including the formats for the reports to be submitted during the Operations Period and the Post Closure Period)
        - The O&M Plan for the first five years of operations and shall be modified for subsequent years
        - If applicable, the month-on-month maintenance schedule for each module of Waste to Energy plants for the first five years of the Concession Period.
    - Six weeks prior to the anniversary of COD each year, the Concessionaire shall submit to the Independent Engineer and The Authority an annual O&M Plan for the next year of operations.
5) Installation of Closed-Circuit Television Cameras
    - The Concessionaire shall install a closed-circuit television camera at Processing Facility Input and Output Weighbridges to record the vehicles being weighed. The camera shall

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record clearly the registration details of the vehicle and face of the vehicle driver along with time. At the end of each day, a back-up copy of the closed-circuit television camera recording of the day shall be produced on compact disc (CD).

6) Weighing of Vehicles at the Processing Facility – All incoming and outgoing vehicles to the Processing Facility shall be weighed, inspected and cleaned regularly.
7) Maintenance of Structures
    - The CC, RCC, Masonry, Steel and other structures with the Processing Facility shall be reported to the Independent Engineer and shall be maintained in good conditions.
    - The CC, RCC, Masonry and other structures shall be checked for cracks and other deformations and shall be attended immediately
    - Periodic maintenance including plastering, cementing, painting, etc. shall be done for CC, RCC, Masonry and other structures periodically (at least once in two years)
    - Periodic maintenance including welding, riveting, painting, etc. shall be done for steel structures periodically (at least once in two years)
8) Maintenance of Utilities and Services
    - The utilities and services like water supply, wastewater collection and treatment, lighting, green belt, etc. within the Processing facility shall be attended immediately for any repairs and shall be maintained in good conditions.
9) Maintain Hygienic and Aesthetic Conditions
    - The MRF, Processing Facility shall be maintained hygienic and aesthetic conditions by taking proper measures as suggested by the Independent Engineer.
10) Hazardous Waste Disposal
    - [deleted]
11) Cleaning and Maintenance Requirements
    - The Concessionaire shall plan and execute cleaning and maintenance procedures ensuring, that:
        - The buildings, structures, seeded and planted areas, paved and unpaved traffic areas etc. are maintained clean and proper without damages, that may impede their functionality or appearance.
        - All moving or fixed equipment and machinery are maintained clean and in good working condition.
        - All service facilities, e.g. outdoor sewage system, leachate management system, etc., are inspected regularly, cleaned and maintained.
        - Every day at closing time the internal roads and other paved areas shall be inspected, and any spillage of MSW shall be collected and disposed properly.
12) Monitoring Procedures
    - The monitoring at integrated facility shall be carried out during implementation/ Construction Period, Operation Period and Post Closure Period. The monitoring plan shall be prepared in accordance to the applicable the State Pollution control Board requirements and as described in the Background Documents.
13) Management of Labour and Prevention of Accidents
    - The Concessionaire shall comply with all the provisions of the laws regarding deployment of labour under the contract; the Abolition of Contract Labour Act, the Minimum Wages Act, The Workmen's Compensation Act and the provisions of the MSW Rules 2016.
    - It shall be the liability and responsibility of the Concessionaire to implement the provisions of these acts. In addition to;
        - The Concessionaire shall not employ in connection with the work any person who has not completed 18 years of age.
        - The Concessionaire shall furnish to the Authority; information on the various

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categories of labour employed by him and the facilities given to the employees in the form prescribed for the purpose at such intervals as may be specified in the work specification.

- The Concessionaire shall keep all records desired under the said labour laws and submit periodical returns to the respective statutory authorities.
- The Concessionaire shall in respect of labour employed by him comply with provisions of the various labour Laws and the Rules and Regulations as applicable to them in regards to matters provided therein and shall indemnify Authority in respect of all claims that may be raised against Authority for non-compliance thereof by the Concessionaire.

- The Concessionaire shall report and register all occurrences of;
  - Accidents involving risks for human health and security;
  - Other incidents connected with occupational health and security; and
  - Unscheduled interruptions to the planned operations including fires, explosions, break-down of vehicles, break-down of essential machinery & equipment, etc.
- The reports shall be forwarded to the Authority & relevant authorities. The registered information shall be kept in the "Report Book". The accident and other incident record formats and record keeping procedure shall be approved by the Authority.

14) Facilities and Benefits for the Work Force Employed

- The Concessionaire shall furnish the details of the work force employed for the work defined in this document – details of the workers including those for supervision before commencing the work.
- Each person (including Supervisor) deployed on this work shall be provided the following facilities.
  - Uniform with ID approved by the Authority (visible distinctly at night)
  - Safety and protective gears

15) Training, Social Programmes and Public Grievances

- Fortnightly/Monthly public awareness program details to be provided to the Authority by the Concessionaire one month prior to such program throughout the Concession Period
- The Concessionaire shall provide community and training center within the Project Site wherein multiple employments related capacity building and training activities shall be undertaken and necessary skills shall be imparted.
- The Concessionaire shall provide an employment opportunity based on training and skill assessment. The secondary employment and/or business opportunity shall be created through the facility operator or support services.
- The Concessionaire shall provide training and awareness to labourers at plant, which should be a continuous activity and maintain the records.
- The Concessionaire shall setup MSW management and innovation center for everyone which will be useful to locals, students and others who would wish to work in this field.
- The Concessionaire shall give prior importance to near by population to get involved in the activities of horticulture, garden maintenance, energy management, etc at the Project Facilities.
- The Concessionaire shall involve the NGOs, Govt. organizations, representative of local gram panchayats, Dist. Collector Officers, etc in consultation with the Authority for training and public awareness program.
- The Concessionaire shall maintain health records of all the artisans and labour staff. The health record formats and record keeping procedure shall be approved by Authority /concerned medical representative.
- The Concessionaire should create a system to register public grievances and redressal

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system.

SCHEDULE 5 - SAFETY REQUIREMENTS

(See Article 5.1)

1. Guiding principles

1.1. Safety Requirements aim at reduction in injuries, loss of life and damage to property resulting from accidents on or about the Project, irrespective of the person(s) at fault.

1.2. Safety Requirements apply to all phases of construction, development, operation and maintenance with emphasis on identification of factors associated with accidents, consideration of the same, and implementation of appropriate remedial measures.

1.3. Safety Requirements include measures associated with safe movement, safety management, safety equipment, fire safety, enforcement and emergency response, with particular reference to the Safety Guidelines specified in Annex-l of this Schedule.

2. Obligations of the Concessionaire

The Concessionaire shall abide by the following:

(a) Applicable Laws and Applicable Permits;
(b) provisions of this Agreement;
(c) relevant Standards/Guidelines contained in nationally accepted codes; and
(d) Good Industry Practice.

3. Safety measures during Operation and Maintenance Period

3.1. Concessionaire is expected to pre-plan all work to minimize the potential for personal injury and property damage

3.2. Develop the plan in a Project specific nature, which is designed to anticipate and identify hazards before work begins. Know in advance what measures will be taken to eliminate hazards or adequately control the anticipated risks for each scope of work. This information shall include, but is not limited to: scope of work, sequence of activities, site specific fall protection, high angle rescue procedures, safety control methods, training records, competent persons, lead abatement, asbestos abatement and excavations. The planning does not stop at the pre- planning stage, but is a continuous process of assessment and evaluation. When changes occur or new hazards are identified during the course of the Project, the work should be suspended while the plan is revised.

3.3. Ensure all subcontractors, suppliers and vendors are informed of their obligations with regard to safety and of the Contractor Safety Requirements.

3.4. Plan and execute all work to comply with the stated objectives and safety requirements contained in the Contractor Safety Requirements, contract provisions, federal, state, and local laws and regulations, and standards.

3.5. Concessionaire or their contractors/subcontractors with 25 or more employees on a single shift will establish a full time position of a Contractor Safety Manager to perform safety inspections and training services. In addition, for every additional 100-job site employees added, an additional Safety Management Representative shall be required. In the event that the Contractor has less than 25 employees, the contractor shall appoint an onsite person who along with other

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concurrent duties shall serve as the Contractor's Safety Representative.

3.6. Concessionaire shall maintain its own orientation program for its employees that shall include as a minimum a review of (1) hazards present in the area in which they will be working and (2) the personal protective equipment and apparel the workers will be required to use or wear as specified under Occupational Safety and Health Administration (OSHA).

3.7. The Concessionaire shall keep a copy of every FIR recorded by the Police with respect to any accident occurring on or about the Project. In addition, the Concessionaire shall also collect data for all cases of accidents not recorded by the Police. The information so collected shall be summarised and submitted to the Authority and the State Government at the conclusion of every [month/quarter].

3.8. The Concessionaire shall submit to the Authority before the [31st (thirty first) March] of each year, an annual report (in 3 (three) copies) containing, without limitation, a detailed listing and analysis of all accidents of the preceding Financial Year and the measures taken by the Concessionaire pursuant to the provisions of Clause 3.1 of this Schedule for averting or minimising such accidents in future.

3.9. Concessionaire shall provide and maintain a chemical and flammable material storage area as described in the Contractor Safety Requirements. Be responsible for the control, availability and use of necessary safety equipment, including personal Protective equipment (PPE) and apparels for the Concessionaire employees.

3.10. Take an active part in all supervisory safety meetings, including the discussion of observed unsafe work practices or conditions and a review of any incidents and corrective actions. Additionally, encourage, solicit and follow up on safety related suggestions from Concessionaire employees.

3.11. Report all injuries and incidents in a timely manner in accordance with federal and/or state laws and regulations and the Contractor Safety Requirements. Analyze all incidents and implement immediate corrective action.

3.12. Provide job supervisors with appropriate training materials to conduct weekly safety meetings and attend said meetings to evaluate their effectiveness.

3.13. Review safety meeting reports submitted by job supervisors and take necessary action to ensure that the job supervisors hold meaningful weekly safety meetings.

3.14. Implement safety-training programs for Contractor supervisors and employees applicable to their specific responsibilities.

3.15. Maintain a list on-site of personnel available for first aid and emergency treatment for injured Contractor employees.

3.16. Concessionaire will be responsible for providing a safety orientation training session for all workers before they are allowed to begin work. The orientation safety training will be conducted by the authorized representative as suggested by the Authority and will include a summary of the Contractor Safety requirements/ Heads- Up Safety Training and awareness.

3.17. At a minimum Contractor representative to adequately train its employees according to applicable safety standards. This training may include but is not limited to: fall protection, fire watch, scaffolds, forklifts, excavation, ladders, confined space entry, respiratory protection,

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OSHA-PSM (Process Safety Management), grounding, shoring and traffic control etc.

3.18. In the event of a work-related incident resulting in a Contractor employee injury or near miss, Contractors shall notify their Appointed Representative immediately.

3.19. Contractors shall provide the appointed representative with an initial report of the incident, in writing, within 24 hours of the accident. Hard copy or electronic formats are acceptable.

3.20. Contractors shall provide a completed accident investigation report within three (3) working days of the incident. In the event, their investigation requires more time to investigate due to the complexity of the incident, Contractors shall communicate to the appointed Representative in writing including intimation to higher authorities of AUTHORITY. This communication shall include the issues causing the delay and an estimated investigation completion date.

3.21. All first aid injuries shall be documented for record keeping purposes. In the event a first aid case develops into a Contractor employee injury, accident reporting and investigation procedure be initiated as outlined previously.

3.22. In order to maintain a safe and healthy work environment in emergency situations, Concessionaire has developed this emergency action plan to help safeguard Contractor employees while working on AUTHORITY Sites. All Contractor employees will be trained in the use of this plan and informed of their role in implementing it during their required safety orientation training. This policy is mandatory and must be strictly followed by all Contractors and their personnel while working on Sites.

3.23. When notified of an emergency evacuation (an audible alarm/verbal announcement will be used by Concessionaire to alert employees of an evacuation), Contractors must immediately evacuate their personnel from the Project Site, perform a head count and report missing personnel to concerned in- charge of the facility and take appropriate steps for investigation. When evacuating any building, structure or job site, employees should utilize the nearest exit to them. Personnel will remain at the designated site until an all-clear is announced or further evacuation steps are ordered.

3.24. Concessionaire shall comply with the latest revision Safety Rules & Procedures Permit. Contractors shall provide adequate fire protection equipment in each of their storage areas, offices and other temporary structures.

3.25. Concessionaire is responsible for orienting employees on the specific safety rules that must be followed by all persons working on Project Facilities. Other personal protective equipment (PPE) is also required in accordance with the appropriate safety standards and equipment as set by the manufacturer's specifications. A list of the minimum personal protective requirements is as follows:

3.26. The Contractor shall be responsible for providing and ensuring the use of required personal protective equipment for its employees.

a) Approved hard hats, shall be worn at all times while on the Site. It is required that each Contractor use an American National Standards Institute (ANSI) approved hardhat.

b) Safety glasses, which meet applicable ANSI standards, are required at all times while on the Site and should include approved side shields. Only clear safety glasses are allowed to be used inside

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buildings or enclosed structures. Shaded goggles or hoods may be used while welding or cutting requires. Prescription safety glasses with self-tinting capabilities may be worn on-site.

c) PPE shall be worn while travelling from the security gate, while travelling through the plants, working outside or otherwise engaged in work at each station, except in areas specifically designated as PPE not required.

d) Contractor‘s vendors and visitors will be required to meet these same standards.

e) Good housekeeping affects safety, quality and production. It is the responsibility of Concessionaire onsite to keep their work area clean. Concessionaires are responsible for trash and debris that is generated by their work. Trash and debris must be collected and placed in proper containers on a daily basis.

3.27 Trash shall not be randomly thrown off a floor or through openings in the floor. Trash chutes, trash boxes, or other approved means such as barricading and/or flagging shall be utilized.

3.28 Safety requirements mentioned in the Environment Impact Assessment (EIA) Report shall be compliance.

4. Costs and expenses

Costs and expenses incurred in connection with the Safety Requirements set forth herein, including the provisions of Clause 2 of this Schedule, shall be borne by the Concessionaire in accordance with the provisions of Article 5.1.

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Annex - I
(Schedule-5)
Safety
Guidelines

1. System integrity

In the design of the Project Facilities, particular care shall be taken to minimise the likely incidence of failure.

2. Safety management

A safety programme shall be prepared by the Concessionaire once every year to bring out clearly the system of management of checks and maintenance tolerances for various elements comprising the Project and compliance thereof. The programme shall also bring out the nature and extent of staff training and awareness in dealing with such checks and tolerances. [2 (two)] copies of the programme shall be sent to the Independent Engineer within [15 (fifteen)] days of the close of every year.

3. Emergency

A set of emergency procedures shall be formulated to deal with different emergency situations and the operations staff shall be trained to respond appropriately during emergency through periodic simulated exercises as laid down in a manual for management of disasters (the "**Disaster Management Manual"**) to be prepared and published by the Concessionaire prior to [Project COD]. The Concessionaire shall provide 5 (five) copies each of the Disaster Management Manual to the Authority and the State Government and the Independent Engineer no later than [30 (thirty)] days prior to Project COD.

4. Fire safety

4.1. To prevent fire in the Project, the Concessionaire shall use fire resistant materials in the construction thereof and shall avoid use of materials which are to some extent flammable, or which emit smoke and harmful gases when burning.

4.2. To deal with incidents of fire, the Concessionaire shall provide a hydrant based fire-fighting system in conformity with the Good Industry Practices.

5. Surveillance and Safety Manual

The Concessionaire shall, no later than [60 (sixty)] days prior to [Project COD], evolve and adopt a manual for surveillance and safety of the Project, in accordance with Good Industry Practice, and shall comply therewith in respect of the security and safety of the Project, including its gate control, sanitation, fire prevention, environment protection.

6. Watch and Ward

The Concessionaire shall, at its own expense and in accordance with Good Industry Practice, provide and maintain all lighting, fencing, watch and ward arrangements for the safety of the Project and all persons affected by it.

For reference purpose only

SCHEDULE 6 - DELETED

For reference purpose only

SCHEDULE 7 - DELETED

For reference purpose only

SCHEDULE 8 - THE SITES

(See Article 10)

1.1. The Site

1.1.1 Site of the Project shall include the land, buildings, structures and road works as described in this Schedule.

1.1.2 An inventory of the Site including the land, buildings, structures, roadworks, trees and any other immovable property on, or attached to, the Site shall be prepared jointly by Authority Representative and the Concessionaire, and such inventory shall form part of this Schedule.

1.2. Sites for ISWM Facilities in the North Package

1.2.1 Map of the Land for ISWM Facility is as shown below in Annex 1 of Schedule 8.

1.3. Inventory of the Site

1.3.1[to be filled at the time of granting concession]

1.4. Secondary Transportation of MSW shall be carried out for the waste from area as per Annex -2 of Schedule 8.

1.5. Additional land, if available and required, may be provided to Concessionaire on a permissive use basis for this Project by the Authority. No additional land (required for ancillary buildings, extension/ addition to the Project Facilities or for construction of works due to change of Scope of Work) shall be provided by the Authority in accordance with the Agreement.

For reference purpose only

Annex 1-
Schedule 8

Tentative location of the Package wise Processing plant location

Location of Processing Plant for North Package - Terrafirma Plant

Location (Latitude & Longitude)	**:** 13.31857, 77.3723
Locality	**:** Sakkaregollahalli, Karnataka
Area Available (Acre)	**:** 90 Acre (Approx.)
Land Owned by	**:** Private Land

Note: BSWML must procure the land at Terrafirma from private owner on standard purchase basis

SITE CONDITION

Electricity	**:** Available
Water Line & Requirements	**:** Available
Sewerage Line connection	**:** Need to be established
Access Road	**:** Available

For reference purpose only

Topography of the proposed processing plant Location

For reference purpose only

Annex 2
Schedule 8

North Package: Yelahanka zone, Dasarahalli Zone, East Zone and West Zone

Table 1 The estimated distribution of Ward and Population in North Package.

Zone	Division	Sub-Division	Population 2023
Yelahanka Zone	Yelahanka	Yelahanka BBMP	134789
		Yelahanka Bangalore Urban District (Chikballapur)	103648
		Yelahanka Sattelite Town BBMP	133518
	Byatarayanapura	Byatarayanapura BBMP	123612
		Byatarayanapura Bangalore Urban District (Bangalore North)	64128
		Kodigehalli BBMP	115386
		Vidyaranyapura BBMP	346583
		Hosakote Bangalore Urban District (Chikballapur)	2711
Dasarahalli Zone	Dasarahalli	Shettyhalli BBMP	134363
		Dasarahalli BBMP	124621
		Peenya Industrial Area BBMP	61111
	Hegganahalli	Peenya Industrial Area BBMP	66011
		Hegganahalli BBMP	317122
East Zone	Hebbal	Hebbal BBMP	220896
		Hebbal Bangalore Urban District (Bangalore North)	2603
		J C Nagar BBMP	221483
	Pulikeshinagar	Kadugondanahalli BBMP	237834
		Pulikeshinagar BBMP	171178
	Sarvagna Nagar	Maruthisevanagar BBMP	242073
		HBR Layout BBMP	345301
	C V Raman Nagar	Jeevan Bhim Nagar BBMP	177045
		C V Raman Nagar BBMP	293502
	Shivajinagar	Shivajinagar BBMP	169727
		Vasanthnagar BBMP	161513
	Shanthinagar	Shanthinagar BBMP	164379
		Domlur BBMP	229917
West Zone	Malleswaram	Mathikere BBMP	166121
		Malleswaram BBMP	214962
	Gandhinagar	Gandhinagar BBMP	215304
		Chickpet BBMP	173383
	Rajajinagar	Sriram Mandira BBMP	177009
		Rajajinagar BBMP	186620
	Govindaraja Nagar	Govindaraja Nagar BBMP	272491
		Chandra Layout BBMP	205808

For reference purpose only

Zone	Division	Sub-Division	Population 2023
	Chamarajpet	J.J.R. Nagar BBMP	209713
		Chamarajpet BBMP	161787
	Mahalakshmipura	Mahalakshmipura BBMP	243119
		Nagpura BBMP	248238
Estimated Total BBMP + BUD Population			**68,39,609**
Estimated Floating Population in North Package			**4,89,207**
Total Estimated Population in North Package (2023)			**73,28,816**
Total Estimated Population in North Package (2030)			**95,15,142**

For reference purpose only

SCHEDULE 9 - SUBSTITUTION AGREEMENT

(See Article 12.3)

THIS SUBSTITUTION AGREEMENT is entered into on this the …….... .day of ……..
20….

AMONGST

1. The **State Department of [Urban Development]** of [Name of the State] represented by [•], and having its offices at [•] (hereinafter referred to as the "**State Government**" which expression shall, unless repugnant to the context or meaning thereof, include its administrators, successors and assigns);

2. The Municipal Corporation of [**], incorporated under the [Act under which Authority has been established], represented by its Municipal Commissioner/Managing Director and having its principal offices at ***, India (hereinafter referred to as the "**Authority**" which expression shall unless repugnant to the context or meaning thereof include its administrators, successors and assigns);

3. LIMITED, a company incorporated under the provisions of the Companies Act, 2013 and having its registered office at ……., (hereinafter referred to as the "**Concessionaire**" which expression shall unless repugnant to the context or meaning thereof include its successors and permitted assigns and substitutes);

4.....(name and particulars of Lenders" Representative) and having its registered office at ……, acting for and on behalf of the Senior Lenders.....(name) as their duly authorised agent with regard to matters arising out of or in relation to this Agreement (hereinafter referred to as the "**Lenders' Representative**", which expression shall unless repugnant to the context or meaning thereof include its successors and substitutes);

WHEREAS:

(A) The Authority has entered into a Concession Agreement dated …..... with the Concessionaire (the "**Concession Agreement**") for development and operation of integrated solid waste management system and reclamation of land through bio- remediation of legacy waste on hybrid annuity basis at_____, in the State of [Name of the State], and a copy of which is annexed hereto and marked as Annex-A to form part of this Agreement.

(B) Senior Lenders have agreed to finance the Project in accordance with the terms and conditions set forth in the Financing Agreements.

(C) Senior Lenders have requested the Authority to enter into this Substitution Agreement for securing their interests through assignment, transfer and substitution of the Concession to a Nominated Company in accordance with the provisions of this Agreement and the Concession Agreement.

For reference purpose only

(D) In order to enable implementation of the Project including its financing, construction, operation and maintenance, the Authority has agreed and undertaken to transfer and assign the Concession to a Nominated Company in accordance with the terms and conditions set forth in this Agreement and the Concession Agreement.

NOW, **THEREFORE**, in consideration of the foregoing and the respective covenants and agreements set forth in this Agreement, the receipt and sufficiency of which is hereby acknowledged, and intending to be legally bound hereby, the Parties agree as follows:

1. DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Substitution Agreement, the following words and expressions shall, unless repugnant to the context or meaning thereof, have the meaning hereinafter respectively assigned to them:

"**Agreement**" means this Substitution Agreement and any amendment thereto made in accordance with the provisions contained in this Agreement;

"**Financial Default**" means occurrence of a material breach of the terms and conditions of the Financing Agreements or a continuous default in Debt Service by the Concessionaire for a minimum period of 3 (three)months;

"**Lenders' Representative**" means the person referred to as the Lenders‟ Representative in the foregoing Recitals;

"**Nominated Company**" means a company, incorporated under the provisions of the Companies Act, 2013, selected by the Lenders‟ Representative, on behalf of Senior Lenders, and proposed to the Authority for assignment/transfer of the Concession as provided in this Agreement;

"**Notice of Financial Default**" shall have the meaning ascribed thereto in Clause 3.2.1; and

"**Parties**" means the parties to this Agreement collectively and "Party" shall mean any of the Parties to this Agreement individually.

1.2 Interpretation

1.2.1 References to Lenders‟ Representative shall, unless repugnant to the context or meaning thereof, mean references to the Lenders‟ Representative, acting for and on behalf of Senior Lenders.

1.2.2 References to Clauses are, unless stated otherwise, references to Clauses of this Agreement.

1.2.3 The words and expressions beginning with capital letters and defined in this Agreement shall have the meaning ascribed thereto herein, and the words and expressions used in this Agreement and not defined herein but defined in the Concession Agreement shall, unless repugnant to the

For reference purpose only

context, have the meaning ascribed thereto in the Concession Agreement.

1.2.4 The rules of interpretation stated in Clauses 1.2, 1.3 and 1.4 of the Concession Agreement shall apply, *mutatis mutandis*, to this Agreement.

2. ASSIGNMENT

2.1 Assignment of rights and title

The Concessionaire hereby agrees to assign the rights, title and interest in the Concession to, and in favour of, the Lenders‟ Representative pursuant to and in accordance with the provisions of this Agreement and the Concession Agreement by way of security in respect of financing by the Senior Lenders under the Financing Agreements.

3. SUBSTITUTION OF THE CONCESSIONAIRE

3.1 Rights of substitution

3.1.1 Pursuant to the rights, title and interest assigned under Clause 2.1, the Lenders‟ Representative shall be entitled to substitute the Concessionaire by a Nominated Company under and in accordance with the provisions of this Agreement and the Concession Agreement.

3.1.2 The Authority hereby agrees to substitute the Concessionaire by endorsement on the Concession Agreement in favour of the Nominated Company selected by the Lenders‟ Representative in accordance with this Agreement. (For the avoidance of doubt, the Senior Lenders or the Lenders‟ Representative shall not be entitled to operate and maintain the Project at _____as Concessionaire either individually or collectively).

3.2 Substitution upon occurrence of Financial Default

3.2.1 Upon occurrence of a Financial Default, the Lenders‟ Representative may issue a notice to the Concessionaire (the "**Notice of Financial Default**") along with particulars thereof, and send a copy to the Authority for its information and record. A Notice of Financial Default under this Clause 3 shall be conclusive evidence of such Financial Default and it shall be final and binding upon the Concessionaire for the purposes of this Agreement.

3.2.2 Upon issue of a Notice of Financial Default hereunder, the Lenders‟ Representative may, without prejudice to any of its rights or remedies under this Agreement or the Financing Agreements, substitute the Concessionaire by a Nominated Company in accordance with the provisions of this Agreement.

3.2.3 At any time after the Lenders‟ Representative has issued a Notice of Financial Default, it may by notice require the Authority to suspend all the rights of the Concessionaire and undertake the operation and maintenance of the facility in accordance with the provisions of the Concession Agreement, and upon receipt of such notice, the State Government or the Authority shall undertake Suspension under and in accordance with the provisions of the Concession Agreement. The aforesaid Suspension shall be revoked upon substitution of the Concessionaire by a Nominated Company, and in the event such substitution is not completed within 180 (one hundred and eighty) days from the date of such Suspension, the State Government or the Authority may terminate the Concession Agreement forthwith by issuing a Concession Period Notice in accordance with the provisions of the Concession Agreement; Provided that upon written request

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from the Lenders‟ Representative and the Concessionaire, the State Government or the Authority may extend the aforesaid period of 180 (one hundred and eighty) days by a period not exceeding 90 (ninety) days. For the avoidance of doubt, the Authority expressly agrees and undertakes to terminate the Concession Agreement forthwith, upon receipt of a written request from the Lenders‟ Representative at any time after 240 (two hundred and forty) days from the date of Suspension hereunder.

3.3 Substitution upon occurrence of Concessionaire Default

3.3.1 Upon occurrence of a Concessionaire Default, the State Government or the Authority shall by a notice inform the Lenders‟ Representative of its intention to issue a Concession Period Notice and grant 15 (fifteen) days time to the Lenders‟ Representative to make a representation, stating the intention to substitute the Concessionaire by a Nominated Company.

3.3.2 In the event that the Lenders‟ Representative makes a representation to the State Government or the Authority within the period of 15 (fifteen) days specified in Clause 3.3.1, stating that it intends to substitute the Concessionaire by a Nominated Company, the Lenders‟ Representative shall be entitled to undertake and complete the substitution of the Concessionaire by a Nominated Company in accordance with the provisions of this Agreement within a period of 180 (one hundred and eighty) days from the date of such representation, the State Government or the Authority shall either withhold Concession Period or undertake Suspension for the aforesaid period of 180 (one hundred and eighty) days; Provided that upon written request from the Lenders‟ Representative and the Concessionaire, the State Government or the Authority shall extend the aforesaid period of 180 (one hundred and eighty) days by a period not exceeding 90 (ninety) days.

3.4 Procedure for substitution

3.4.1 The State Government, the Authority and the Concessionaire hereby agree that on or after the date of Notice of Financial Default or the date of representation to the Authority under Clause 3.3.2, as the case may be, the Lenders‟ Representative may, without prejudice to any of the other rights or remedies of the Senior Lenders, invite, negotiate and procure offers, either by private negotiations or public auction or tenders for the take over and transfer of the facilities including the Concession to the Nominated Company upon such Nominated Company‟s assumption of the liabilities and obligations of the Concessionaire towards the Authority under the Concession Agreement and towards the Senior Lenders under the Financing Agreements.

3.4.2 To be eligible for substitution in place of the Concessionaire, the Nominated Company shall be required to fulfill the eligibility criteria that were laid down by the Authority for short listing the bidders for award of the Concession.

3.4.3 Upon selection of a Nominated Company, the Lenders‟ Representative shall request the State government and the Authority to:

(a) accede to transfer to the Nominated Company the right to construct, operate and maintain the Project facilities in accordance with the provisions of the Concession Agreement;

(b) endorse and transfer the Concession to the Nominated Company, on the same terms and conditions, for the residual Concession Period; and

(c) enter into a Substitution Agreement with the Lenders‟ Representative and the Nominated Company on the same terms as are contained in this Agreement.

3.4.4 If the State Government or the Authority has any objection to the transfer of Concession in favour

For reference purpose only

of the Nominated Company in accordance with this Agreement, it shall within 15 (fifteen) days from the date of proposal made by the Lenders‟ Representative, give a reasoned order after hearing the Lenders‟ Representative. If no such objection is raised by the State Government or the Authority, the Nominated Company shall be deemed to have been accepted. The State Government or the Authority thereupon shall transfer and endorse the Concession within 15 (fifteen) days of its acceptance/deemed acceptance of the Nominated Company; Provided that in the event of such objection by the State Government or the Authority, the Lenders‟ Representative may propose another Nominated Company whereupon the procedure set forth in this Clause 3.4 shall be followed for substitution of such Nominated Company in place of the Concessionaire.

3.5 Selection to be binding

The decision of the Lenders‟ Representative, the Authority in selection of the Nominated Company shall be final and binding on the Concessionaire. The Concessionaire irrevocably agrees and waives any right to challenge the actions of the Lenders‟ Representative or the Senior Lenders or the State Government or the Authority taken pursuant to this Agreement including the transfer/assignment of the Concession in favour of the Nominated Company. The Concessionaire agrees and confirms that it shall not have any right to seek revaluation of assets of the Project or the Concessionaire's shares. It is hereby acknowledged by the Parties that the rights of the Lenders‟ Representative are irrevocable and shall not be contested in any proceedings before any court or the State Government or the Authority and the Concessionaire shall have no right or remedy to prevent, obstruct or restrain the State Government or the Authority or the Lenders‟ Representative from affecting or causing the transfer by substitution and endorsement of the Concession as requested by the Lenders‟ Representative.

4. PROJECT AGREEMENTS

4.1 Substitution of Nominated Company in Project Agreements

The Concessionaire shall ensure and procure that each Project Agreement contains provisions that entitle the Nominated Company to step into such Project Agreement, in its consent, in place and substitution of the Concessionaire in the event of such Nominated Company's assumption of the liabilities and obligations of the Concessionaire under the Concession Agreement.

5. TERMINATION OF CONCESSION AGREEMENT

5.1 Concession Period upon occurrence of Financial Default

At any time after issue of a Notice of Financial Default, the Lenders‟ Representative may by a notice in writing require the State Government or the Authority to terminate the Concession Agreement forthwith, and upon receipt of such notice, the State Government or the Authority shall undertake Concession Period under and in accordance with the Agreement.

5.2 Concession Period when no Nominated Company is selected

In the event that no Nominated Company acceptable to the Authority is selected and recommended by the Lenders‟ Representative within the period of 180 (one hundred and eighty) days or any extension thereof as set forth in Clause 3.3.2, the State Government or the Authority may terminate the Concession Agreement forthwith in accordance with the provisions thereof.

5.3 Realization of Debt Due

For reference purpose only

The Authority and the Concessionaire hereby acknowledge and agree that, without prejudice to their any other right or remedy, the Lenders‟ Representative is entitled to receive from the Concessionaire, without any further reference to or consent of the Concessionaire, the Debt Due upon Concession Period of the Concession Agreement. For realisation of the Debt Due, the Lenders‟ Representative shall be entitled to make its claim from the Escrow Account in accordance with the provisions of the Concession Agreement and the Escrow Agreement.

6. DURATION OF THE AGREEMENT

6.1 Duration of the Agreement

This Agreement shall come into force from the date hereof and shall expire at the earliest to occur of the following events:

(a)) Concession Period of the Agreement; or

(b) no sum remains to be advanced, or is outstanding to the Senior Lenders, under the Financing Agreements.

7. INDEMNITY

7.1 General indemnity

7.1.1 The Concessionaire will indemnify, defend and hold the Authority and the Lenders' Representative harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense of whatever kind and nature arising out of any breach by the Concessionaire of any of its obligations under this Agreement or on account of failure of the Concessionaire to comply with Applicable Laws and Applicable Permits.

7.1.2 The Authority will indemnify, defend and hold the Concessionaire harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense arising out of failure of the Authority to fulfill any of its obligations under this Agreement, materially and adversely affecting the performance of the Concessionaire's obligations under the Concession Agreement or this Agreement, other than any loss, damage, cost and expense, arising out of acts done in discharge of their lawful functions by the Authority, its officers, servants and agents.

7.1.3 The Lenders‟ Representative will indemnify, defend and hold the Concessionaire harmless against any and all proceedings, actions and third party claims for any loss, damage, cost and expense arising out of failure of the Lenders‟ Representative to fulfill its obligations under this Agreement, materially and adversely affecting the performance of the Concessionaire's obligations under the Concession Agreement, other than any loss, damage, cost and expense, arising out of acts done in discharge of their lawful functions by the Lenders‟ Representative, its officers, servants and agents.

7.2 Notice and contest of claims

In the event that any Party hereto receives a claim from a third party in respect of which it is entitled to the benefit of an indemnity under Clause 7.1 or in respect of which it is entitled to reimbursement (the "**Indemnified Party**"), it shall notify the other Party responsible for indemnifying such claim hereunder (the "**Indemnifying Party**") within 15 (fifteen) days of receipt of the claim and shall not settle or pay the claim without the prior approval of the Indemnifying Party, such approval not to be unreasonably withheld or delayed. In the event that

For reference purpose only

the Indemnifying Party wishes to contest or dispute the claim, it may conduct the proceedings in the name of the Indemnified Party and shall bear all costs involved in contesting the same. The Indemnified Party shall provide all cooperation and assistance in contesting any claim and shall sign all such writings and documents as the Indemnifying Party may reasonably require.

8. DISPUTE RESOLUTION

8.1 Dispute resolution

8.1.1 Any dispute, difference or claim arising out of or in connection with this Agreement which is not resolved amicably shall be decided by reference to the dispute resolution by the ACS, UDD. Failing resolution through this process, the matter may be referred to the competent civil courts having jurisdiction in Bengaluru.

8.1.2 The venue of arbitration shall be [•] and the language of arbitration shall be English.

9. MISCELLANEOUS PROVISIONS

9.1 Governing law and jurisdiction

This Agreement shall be construed and interpreted in accordance with and governed by the laws of India, and the Courts at [Government of Karnataka, Hon'ble High court] shall have jurisdiction over all matters arising out of or relating to this Agreement.

9.2 Waiver of immunity

The Authority unconditionally and irrevocably:

(a) agrees that the execution, delivery and performance by it of this Agreement constitute commercial acts done and performed for commercial purpose;

(b) agrees that, should any proceedings be brought against it or its assets, property or revenues in any jurisdiction in relation to this Agreement or any transaction contemplated by this Agreement, no immunity from such proceedings shall be claimed by or on behalf of the State Government or the Authority with respect to its assets;

(c) waives any right of immunity which it or its assets, property or revenues now has, may acquire in the future or which may be attributed to it in any jurisdiction; and

(d) consents generally in respect of the enforcement of any judgment or award against it in any such proceedings to the giving of any relief or the issue of any process in any jurisdiction in connection with such proceedings (including the making, enforcement or execution against it or in respect of any assets, property or revenues whatsoever irrespective of their use or intended use of any order or judgment that may be made or given in connection therewith).

9.3 Priority of agreements

In the event of any conflict between the Concession Agreement and this Agreement, the provisions contained in the Concession Agreement shall prevail over this Agreement.

9.4 Alteration of terms

All additions, amendments, modifications and variations to this Agreement shall be effectual and

For reference purpose only

binding only if in writing and signed by the duly authorised representatives of the Parties.

9.5 Waiver

9.5.1 Waiver by any Party of a default by another Party in the observance and performance of any provision of or obligations under this Agreement:

(a) shall not operate or be construed as a waiver of any other or subsequent default hereof or of other provisions of or obligations under this Agreement;

(b) shall not be effective unless it is in writing and executed by a duly authorised representative of the Party; and

(c) shall not affect the validity or enforceability of this Agreement in any manner.

9.5.2 Neither the failure by either Party to insist on any occasion upon the performance of the terms, conditions and provisions of this Agreement or any obligation there under nor time or other indulgence granted by a Party to another Party shall be treated or deemed as waiver of such breach or acceptance of any variation or the relinquishment of any such right hereunder.

9.6 No third party beneficiaries

This Agreement is solely for the benefit of the Parties and no other person or entity shall have any rights hereunder.

9.7 Survival

9.7.1 Concession Period of this Agreement:

(a) shall not relieve the Parties of any obligations hereunder which expressly or by implication survive termination hereof; and

(b) except as otherwise provided in any provision of this Agreement expressly limiting the liability of either Party, shall not relieve either Party of any obligations or liabilities for loss or damage to the other Party arising out of or caused by acts or omissions of such Party prior to the effectiveness of such termination or arising out of such termination.

9.7.2 All obligations surviving the cancellation, expiration or termination of this Agreement shall only survive for a period of 3 (three) years following the date of such termination or expiry of this Agreement.

9.8 Severability

If for any reason whatever any provision of this Agreement is or becomes invalid, illegal or unenforceable or is declared by any court of competent jurisdiction or any other instrumentality to be invalid, illegal or unenforceable, the validity, legality or enforceability of the remaining provisions shall not be affected in any manner, and the Parties will negotiate in good faith with a view to agreeing to one or more provisions which may be substituted for such invalid, unenforceable or illegal provisions, as nearly as is practicable to such invalid, illegal or unenforceable provision. Failure to agree upon any such provisions shall not be subject to dispute resolution under Clause 8 of this Agreement or otherwise.

9.9 Successors and assigns

This Agreement shall be binding on and shall insure to the benefit of the Parties and their respective

For reference purpose only

successors and permitted assigns.

9.10 Notices

All notices or other communications to be given or made under this Agreement shall be in writing, shall either be delivered personally or sent by courier or registered post with an additional copy to be sent by facsimile or e-mail. The address for service of each Party, its facsimile number and e-mail address are set out under its name on the signing pages hereto. A notice shall be effective upon actual receipt thereof, save that where it is received after 5.30 (five thirty) p.m. on any day, or on a day that is a public holiday, the notice shall be deemed to be received on the first working day following the date of actual receipt. Without prejudice to the foregoing, a Party giving or making a notice or communication by facsimile or e-mail shall promptly deliver a copy thereof personally, or send it by courier or registered post to the addressee of such notice or communication. It is hereby agreed and acknowledged that any Party may by notice change the address to which such notices and communications to it are to be delivered or mailed. Such change shall be effective when all the Parties have notice of it.

9.11 Language

All notices, certificates, correspondence and proceedings under or in connection with this Agreement shall be in English.

9.12 Authorised representatives

Each of the Parties shall by notice in writing designate their respective authorised representatives through whom only all communications shall be made. A Party hereto shall be entitled to remove and/or substitute or make fresh appointment of such authorised representative by similar notice.

9.13 Original Document

This Agreement may be executed in three counterparts, each of which when executed and delivered shall constitute an original of this Agreement.

For reference purpose only

IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

THE COMMON SEAL OF CONCESSIONAIRE has been affixed pursuant to the resolution passed by the Board of Directors of the Concessionaire at its meeting held on the …… day of 20…… hereunto affixed in the presence of……, Director, who has signed these presents in token thereof and ……, Company Secretary / Authorised Officer who has countersigned the same in token thereof :$

SIGNED, SEALED AND DELIVERED

For and on behalf of

NAME OF THE STATE GOVERNMENT by:

(Signature) (Name) (Designation) (Address) (Fax No.)
(E-mail address)

SIGNED, SEALED AND DELIVERED

For and on behalf of

NAME OF THE AUTHORITY by:

(Signature) (Name) (Designation) (Address) (Fax No.)
(E-mail address)

SIGNED, SEALED AND DELIVERED

For and on behalf of

SENIOR LENDERS by the Lenders‟ Representative:
(Signature)
(Name)
(Designation)
(Address)
(Fax)
(E-mail address)

In the presence of:

1. 2.

$To be affixed in accordance with the articles of association of the Concessionaire.

For reference purpose only

SCHEDULE 10 - SCOPE OF WORK OF INDEPENDENT ENGINEER

(See Article 13)

1. The Independent Engineer shall assist the Authority in supervising the construction, development, operation and maintenance of the Project Facilities and shall work closely with the Authority to monitor compliance with the KPIs. The detailed scope of work of the Independent Engineer, to be read in conjunction with the provisions of the Concession Agreement, is outlined below:

1.1. The Independent Engineer shall review the Designs and Drawings to be provided by the Concessionaire. These will include, inter-alia, the site layout plan, process design, drawings, structural calculations, mechanical, electrical and instrumentation works, quality plans, implementation schedules, and the environment, health & safety plans for all Project Facilities. On the basis of its review, the Independent Engineer shall provide its recommendations to the Authority.

1.2. During relevant Construction Periods, the Independent Engineer shall inspect the relevant Project Facilities at least once a month and prepare an inspection report, setting out the progress of the construction of the relevant Project Facilities, defects or deficiencies, if any, and status of compliance with the Construction Plan, Technical Specifications and Designs and Drawings and the Guaranteed Interim Availability.

1.3. The Independent Engineer shall be responsible to monitor the implementation of the approved environment, health & safety plan by the Concessionaire. The Independent Engineer shall also verify the material safety data sheets of hazardous chemicals, if any.

1.4. The Independent Engineer shall review the construction progress of the Project as per the Project Milestones proposed by the Concessionaire and provide necessary recommendations to the Authority for the purpose of issuance of Project Milestone Certificates.

1.5. At the end of the Construction Period for different Project Facilities, the Independent Engineer shall review the relevant Project Facilities and provide necessary recommendations to the Authority with regards to the issuance of the respective Construction Completion Certificates to the Concessionaire to certify completion of construction of such Project Facilities, and the satisfaction of all other conditions required to be fulfilled by the Concessionaire.

1.6. The Independent Engineer shall monitor the Trial Operations of different Project Facilities during their respective Trial Periods and provide necessary recommendations to the Authority for the purpose of the issuance of the respective COD Certificates to the Concessionaire. The review shall be based on the Trial Operations Procedures outlined in the Concession Agreement and include the following:

(a) Verify quality of installations, operation of equipment and workmanship;
(b) [Verify the Standards/quality of the By-Products;]
(c) [Verify the consumption of electricity and generation of power, if any, vis-à-vis the Guaranteed Energy Consumption.]

1.7. The Independent Engineer shall review the O&M Manual and the Scheduled Maintenance Program submitted by the Concessionaire and provide its recommendations to the Authority.

1.8. During the O&M Period, the Independent Engineer shall inspect all the Project Facilities at least once a month and prepare an inspection report, setting out the defects or deficiencies, if any, and status of compliance with the relevant KPIs and Standards.

For reference purpose only

1.9. The Independent Engineer shall inspect laboratories where tests are conducted on samples to ensure conformance and compliance with laboratory procedures and requirements.

1.10. The Independent Engineer shall review the reports generated form the Online Monitoring Systems of different Project Facilities to assess adherence to their relevant KPIs and submit the monthly KPI Adherence Reports to the Authority.

1.11. The Independent Engineer shall assist the Authority in estimating the interim Availability Liquidated Damages and Delay Liquidated Damages, as applicable.

1.12. The Independent Engineer shall assist Authority in estimating the Liquidated Damages, as applicable.

1.13. During the Concession Period, and as requested by the Authority, the Independent Engineer shall provide its opinion and assessment on the implications of the events related to Emergency, Change in Law, Force Majeure, Fundamental Change in Law, Minor Casualty, Total Casualty, Variation and Unforeseen Site Conditions.

1.14. The Independent Engineer shall participate in the survey to determine the Hand-back Conditions as per the Hand-back Requirements. It shall review the survey report of the Hand-back Conditions submitted by the Concessionaire and provide its recommendations to the Authority on the compliance with the Hand-back Requirements.

The Independent Engineer ("IE") is expected to play a positive and independent role in discharging its functions, thereby facilitating the smooth implementation and operation of the Project Facilities during the Implementation Period and Concession Period. The Independent Engineer shall approve the assigned activities and shall make recommendations to the Authority for its approval. Broadly, the role of the Independent Engineer is to:

Review, and apprise the DPR and shall make recommendations to the Authority for its approval Review and approve the activities associated with Design, Construction, Operation and Maintenance of the Project Facilities to ensure compliance by the Concessionaire as per the Approved DPR;
Shall make recommendations to the Authority for disbursement of funds for Construction Works during Implementation Period; Report to the Parties on the various physical, technical and financial aspects of the Project based on inspections, site visits and Tests; Assist the Parties in arriving at an amicable settlement of disputes, should the need arise. Review matters related to safety and environment, health and social management measures adopted by the Concessionaire for the Project;
Shall appoint relevant staff/personnel for daily monitoring of all operations at ISWM Facility, and shall generate a Daily Monitoring Report for the same. Shall continuously monitor the operations at the weighbridges, authenticate the Daily Weight Sheet submitted by the Concessionaire and shall make recommendations to the Authority for approval Shall make recommendations to the Authority for the tipping fee, as well as for penalties based on the Concessionaire's performance, to be paid to the Concessionaire; and Shall make recommendations to the MC for the apportionment of tipping fee payable by participating AUTHORITY's. Shall ensure the involvement of RWAs/ Authority/ AUTHORITY officials for the monitoring of the performance of the Concessionaire by issuing **"Challan"** books to these personnel to ensure proper monitoring.

Scope of Services

The scope of services to be provided by the Independent Engineer is detailed in the subsequent

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subsections of this clause and in addition to the services as detailed hereunder the IE shall also discharge duties as desired by Authority from time to time.

Implementation Period - Planning Phase: -

Ensure that the DPR submitted by the Concessionaire is in compliance with the Scope of Work of the Concessionaire as well as various requirements of the Concession Agreement, including those specified in Schedules 1 to 14, suggest the Concessionaire for any changes and shall make recommendation to the Authority for approval. On receipt of DPR from the Concessionaire, the Independent Engineer shall make recommendations, in writing, to the Concessionaire for any changes, or modifications, if any, to be made in the DPR within 7 (Seven days). The Independent Engineer shall review any modified Drawings or supporting Documents sent to it by the Concessionaire and furnish its comments within 7 (seven) days of receiving such Drawings or documents. Shall review and recommend to the Authority for any changes applied for by the Concessionaire to the Approved DPR. The Independent Engineer shall approve the revised DPR, after consultations with the Concessionaire, within a period of 7 (Seven) days of receipt of revised DPR. Ensures, as the case may be, incorporation of comments and modification suggested by Authority or any Competent Authority; Constantly monitor the progress of Environmental Clearance ("EC") and apprise Authority of progress achieved by Concessionaire every fortnight; Approve the design and drawing of waste processing, material recovery, system of disposal of rejects from processing etc.

Implementation Period - Construction Phase: -

The IE would monitor, in accordance with Good Industry Practice, the progress in implementation of the project activities Waste Processing Facility and the Landfill Facility and ensure compliance with the Construction Requirements. For this purpose, the Independent Engineer shall undertake, inter alia, the following activities and where appropriate make suitable suggestions:

Provide the services of a full-time resident project representative during the period commencing from 7 seven days from the date of appointment of the IE until the expiry of the IE's appointment; Provide administration of the Concession Agreement in full and in complete accordance with applicable laws; Shall assist Authority in approving subcontractor if the request has been made by Concessionaire for the same for some part of the Project; Act on the Authority's behalf as the Authority's representative regarding all contact along with the Concessionaire unless expressly indicated otherwise; The IE shall attend regular meetings ("Project Review Meetings" or "PRMs") with the Authority and the Concessionaire, to be held at least once in every two week during the Implementation Period to report on progress and quality of work performed by the Concessionaire and to discuss problems or other pertinent matters relating to the work. The IE shall take notes at the meetings and provide a copy of the PRM minutes to each person who attended the meeting. The IE shall inform and advise the Authority, in a timely manner all matters relating to the execution, progress, and completeness of the Construction Works on fortnightly basis; Review, approve or disapprove drawings, samples, and other submissions of the Concessionaire to determine compliance and conformance with the requirements of Concession Agreement; Reject work which fails to comply with the specifications and requirements of the Concession Agreement.

Whenever considered necessary or advisable to ensure supervision of corrective action to be taken for reformation of defective work, the IE may require inspection or testing of such work, whether or not such work be then fabricated, installed, or completed, Provide the services of experts to check the quality of materials and the workmanship during the installation/construction of the Construction Works at ISWM Facility and Facilities as per the Approved DPR Reviews all the working drawings of Construction Works submitted by the

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Concessionaire and ensure conformity of the same with the Approved DPR Address issues relating to specific site conditions, design modifications, or Concessionaire disputes. Issue Readiness Certificate/ Provisional Readiness Certificates to the Concessionaire for various activities specified in the Agreement after approval from the Authority Ensure the closure of Landfill for Interim Period and shall make recommendation to the Authority for issuance of Closure Certificate for Landfill for Interim Period Ensure the involvement of RWAs/ NGOs/ citizens for implementing, executing and monitoring the project.

The IE shall prepare and submit to Authority and MC, Progress Reports including the following:
Weekly progress of works;
Slippages, if any, in the construction vis-à-vis planned construction schedule and the reasons thereof;

Construction schedule for the succeeding week, Report on Tests Report on notices issued Issues, if any, with regard to the works along with the details of the action taken for the resolution of the same; Photographic record of progress of works over the previous week.

Operations & Maintenance – Interim Phase and Concession Period: -

During this period the Independent Engineer would monitor, in accordance with Good Industry Practice, the Operations & Maintenance activities undertaken by the Concessionaire so as to ensure compliance with the O&M Requirements. The specific activities to be undertaken would include the following:

Provide administration of the contract in full and in complete accordance with applicable laws; Act on the Authority's behalf as the Authority's representative regarding all contact with the Concessionaire a per the Concession Agreement unless expressly indicated otherwise; Designate tests on materials and/or equipment; Review and approve test results and materials and/or equipment used; Interpret the requirements of the Concession Agreement and make decisions regarding performance of the Concessionaire. The IE shall inform and advise the Authority, in a timely manner, all matters relating to the execution, progress, and completeness of works; Reject work which fails to comply with the specifications and requirements of the Agreement.

Whenever considered necessary or advisable to ensure correction of defective work, the IE may require inspection or testing of such work, whether or not such work be then fabricated, installed, or completed; Review, approve or disapprove drawings, samples, and other submissions of the Concessionaire to determine compliance and conformance with the requirements of the Agreement; Shall continuously monitor the operations at the weighbridges, authenticate the Daily Weight Sheet submitted by the Concessionaire and shall make recommendations to the Authority for approval Shall make recommendation for payment of tipping fees based on the daily weight sheet and provisions of the concession agreement to the monitoring committee. Ensure the deployment of all required personnel as per the time schedule to fulfill all the obligation of IE; In addition to the daily responsibilities,
conduct a general inspection of the Project Area at least once a week, along with surprise visits, and as and when exigencies require to ascertain conformity with Construction Requirements and O&M Requirements; Inspect and certify the quality of Municipal Solid Waste ULB wise being collected by Concessionaire, when required Inspect and certify the quality and composition of inert being collected by the Concessionaire, by deploying supervisors at each weighbridge installed in the project; Address issues relating to specific site conditions, design modifications, or Concessionaire disputes. Review the Operation Plan as when required; Periodically review the O&M Manual for adequacy; Monitor Operation and Maintenance activities (including maintenance of Project Facilities and equipment, standards of service, safety and environmental issues) and the overall quality of O&M activities so as to ensure compliance by the Concessionaire with the O&M Requirements, O&M Plan and O&M Manual; Review and ascertain the cost

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variation arising as a result of Change in Law and determine the Additional Cost; Undertake a quarterly review of the various records and registers to be maintained by the Concessionaire and suggest suitable remedial measures/ procedures, where necessary.

The IE shall attend regular meetings ("Project Review Meetings" or "PRMs") with the Authority, and the Concessionaire, to be held at least once in every month during the Active Operations Period to report on progress and quality of work performed by the Concessionaire and to discuss problems or other pertinent matters relating to the work. The IE shall take notes at the meetings and provide a copy of the PRM minutes to each person who attended the meeting. The IE shall prepare and submit to Authority, Monthly Project Reports including but not limited to the following:
Report on Tests Report on notices issued Issues, if any, along with the details of the action taken for the resolution of the same;

Hand back of ISWM Facility, equipment, plant, machinery and vehicles to Authority: -

At the time of handing back the Waste Processing Facilities to Authority at the end of Concession Period, the IE shall: monitor and certify compliance with the Handback Requirements as per the Concession Agreement, issue a Certificate of Compliance with Handback Requirements to the Concessionaire,
assist in preparation of the Post Closure Maintenance Plan to Authority and Concessionaire;

Meetings, Records and Reporting: -

In addition to attending the meetings hereinabove mentioned, the IE shall also participate in emergency or extraordinary meetings of the Parties held to deal with any Force Majeure Event or other exigencies. IE shall undertake all other duties in accordance with the agreement.

The Independent Engineer shall, in the ordinary course, maintain record of the activities undertaken by it in discharge of its functions and responsibilities. This would include records in respect of the following: Manpower deployed and other organizational arrangements of the Independent Engineer;
Reviews of documents submitted to it by the Concessionaire to meet Construction Requirements and O&M Requirements, such as manuals, Drawings, As Built drawings, schedules, plans and reports; Inspections undertaken and notices/ instructions issued to the Concessionaire;
Review of compliance with Construction Requirements and O&M Requirements; Tests; Concession Payments / Tipping Fees certified; Change in Law; Force Majeure Events; Breaches and defaults by the Parties; and Handback Requirements. The Independent Engineer would be required to submit the following reports to the Parties: Implementation Period
Work Progress Report Readiness Certificate (including Provisional Readiness Certificate) Any supplemental or special report that may be considered necessary by the Independent Engineer (including Force Majeure, and breach of obligations).

Concession Period: -

Monthly Project Report (in accordance with Article CA). Any supplemental or special report that may be considered necessary by the Independent Engineer (including Force Majeure, and breach of obligations) Annual Review of O&M Manual Report on Handback Requirements. Any other report as may be reasonably required by Authority, or as may be necessary to give effect to the provisions of the Agreement.

This TOR shall apply to construction, operation and maintenance of the Project. Whereas the TOR details out the scope of the IE, it is hereby clarified that the Concession Agreement shall govern the scope of the IE. In the event of any deviation in the scope of the IE in the TOR and the Concession Agreement, the scope of the IE as per the Agreement shall be considered. The detailed TOR is provided in Annex -1 - Terms of Reference of the Agreement Providing Independent

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SCHEDULE 11 - DRAWINGS

(See Article 15)

Drawings

In compliance with the obligations set forth in Article 14 of this Agreement, the Concessionaire shall furnish to the Authority/Independent Engineer, free of cost, all Drawings listed below:

Sr. No.	Description
1.	**Processing and Treatment Facility**
a)	General layout and construction details such as fencing /boundary wall, building sectional view, etc
b)	Plantation and green belt area with species details
c)	Facilities drawing like internal roads, machinery, weighbridges, maneuvering of vehicles, MRF, processing/ treatment, waste to energy plant, waste to Bio-CNG plant, recycling, etc
d)	Utilities drawing such as security arrangement, restroom, etc
e)	Electric supply, water supply, storm water drainage, leachate treatment,etc
f)	Any additional facilities drawing provided by Concessionaire such as rain water harvesting, solar power or/wind power, etc

Note: Drawing - mean all of the drawings including working drawings for the Project Facilities, designs, calculations and documents pertaining to the Project in accordance with the Construction and O&M Requirements based on the Manual of Design Input.

Additional Drawings

If the Authority/Independent Engineer determines that for discharging its duties and functions under this Agreement, it requires any drawings other than those listed hereinabove, it may by notice require the Concessionaire to furnish such drawings forthwith. Upon receiving a requisition to this effect, the Concessionaire shall promptly prepare and furnish such drawings to the Authority/Independent Engineer as if such drawings formed part of this Schedule 11.

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SCHEDULE 12 - CONSTRUCTION COMPLETION SCHEDULE

(See Article 15)

1. Construction Completion Schedule

During the Construction Period, the Concessionaire shall comply with the requirements set forth in this Schedule for each of the Project milestones and Scheduled Construction Completion Date (the "**Project Completion Schedule"**). Within [15 (fifteen)] days of the date of each Project Milestone, the Concessionaire shall notify the Authority of such compliance along with necessary particulars thereof.

The milestones stated in the table below are tentative and Concessionaire can start some of the activities simultaneously to meet the Project Completion Schedule and achieve COD on or before the dates specified in this agreement.
Scheduled COD would be 24 months from handover of the site or getting Environmental Clearance and Consent to Establish, whichever is later.

PROJECT PHASE	MILESTONE/ KEY ACTIVITIES TO BE UNDERTAKEN BY CONCESSIONAIRE	TIME PERIOD (DAYS)
Completion Milestone 1: Planning Phase	a. Undertake technical investigations and / or studies as required. b. Signing of Land Agreement with the Authority. c. Preparation and submission of DPR. d. Seek Authorities approval for the submitted DPR.	120 days or Four Months from the Signing Date of agreement
Completion Milestone 2: Planning Phase	e. Obtain all necessary clearances as defined in Schedule 30. f. Financial Closure with Lenders. g. Obtain Notice to Proceed from the Authority for construction of SWM Facility.	240 days or Eight Months From Execution Date
Completion Milestone 3: Interim Phase	Undertake all the necessary steps, including construction activities required for h. Processing Facility, ancillary structures, amenities i. Landfills. j. Secondary Transport Infrastructure.	15 Months from Execution Date

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Completion Milestone 4: Construction Phase	k. Development & construction of SWM Facility. l. Environment management and	18 Months for Compost/RDF/ Bio-methanation ----------

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	monitoring.	24 Months for Waste to Energy Plant From Execution Date
Beyond COD, the Project Milestones shall be as follows:		
Milestone 5: Operations & Maintenance Phase	Secondary Collection & Transportation, Processing, and disposal of MSW in a scientific manner	30 Years (Post COD)
Milestone 6: Post-closure activities	Management and closure of the landfill site as per CPCB and State PCB norms	15 Years post O&M Phase

2. Extension of period

Upon extension of any or all of the aforesaid Project Milestones or the Scheduled Construction Completion Date, as the case may be, under and in accordance with the provisions of this Agreement, the Project Completion Schedule shall be deemed to have been amended accordingly.

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SCHEDULE 13 - ENVIRONMENT, HEALTH & SAFETY

(See Article 14)

1. Link to the Environment and Social Management Framework (ESMF) to be followed for Projects

Environmental and Social Management Framework of Project:
http://--____-___-___-

2. Requirements for preparation of ESHS Management Strategies and Implementation Plans (ESHS-MSIP)

The Concessionaire shall submit comprehensive and concise Environmental, Social, Health and Safety Management Strategies and Implementation Plans (ESHS-MSIP). These strategies and plans shall describe in detail the actions, materials, equipment, management processes etc. that will be implemented by the Concessionaire, and its subcontractors.

In developing these strategies and plans, the Concessionaire shall have regard to the ESHS provisions of the Concession Agreement including those as may be more fully described in the following:

a. Works Requirements described in Concession Agreement;

b. Environmental and Social Impact Assessment (ESIA);

c. Environmental and Social Management Plan (ESMP);

d. Consent Conditions (regulatory authority conditions attached to any permits or approvals for the project).

……

Metrics for Progress Reports

The following Metrics should be used for regular reporting:

a. environmental incidents or non-compliances with Concession Agreement requirements, including contamination, pollution or damage to ground or water supplies;

b. health and safety incidents, accidents, injuries and all fatalities that require treatment;

c. interactions with regulators: identify agency, dates, subjects, outcomes (report the negative if none);

d. status of all permits and agreements:

i. work permits: number required, number received, actions taken for those not received;

- *status of permits and consents: list areas/facilities with permits required (quarries, asphalt & batch plants), dates of application, dates issued (actions to follow up if not issued), dates submitted to resident engineer (or equivalent), status of area (waiting for permits, working, abandoned without reclamation, decommissioning plan being implemented, etc.);*

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- *list areas with landowner agreements required (borrow and spoil areas, camp sites), dates of agreements, dates submitted to resident engineer (or equivalent);*
- *identify major activities undertaken in each area this month and highlights of environmental and social protection (land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation);*
- *for quarries: status of relocation and compensation (completed, or details of monthly activities and current status).*

e. health and safety supervision:

i. safety officer: number days worked, number of full inspections & partial inspections, reports to construction/project management;

ii. number of workers, work hours, metric of PPE use (percentage of workers with full personal protection equipment (PPE), partial, etc.), worker violations observed (by type of violation, PPE or otherwise), warnings given, repeat warnings given, follow-up actions taken (if any);

f. worker accommodations:

iii. number of expats housed in accommodations, number of locals;

iv. date of last inspection, and highlights of inspection including status of accommodations' compliance with national and local law and good practice, including sanitation, space, etc.;

v. actions taken to recommend/require improved conditions, or to improve conditions.

g. HIV/AIDS: provider of health services, information and/or training, location of clinic, number of non-safety disease or illness treatments and diagnosis (no names to be provided);

h. gender (for expats and locals separately): number of female workers, percentage of workforce, gender issues raised and dealt with (cross-reference grievances or other sections as needed);.

i. training:

vi. number of new workers, number receiving induction training, dates of induction training;

vii. number and dates of toolbox talks, number of workers receiving Occupational Health and Safety (OHS), environmental and social training;

viii. number and dates of HIV/AIDS sensitization training, no. workers receiving training (this month and in the past); same questions for gender sensitization, flaglady/flagman training.

j. environmental and social supervision:

ix. environmentalist: days worked, areas inspected and numbers of inspections of each part of the Facilities created, highlights of activities/findings (including violations of environmental and/or social best practices, actions taken), reports to environmental and/or social specialist/construction/site management;

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x. *sociologist: days worked, number of partial and full site inspections of each part of the Facilities created, highlights of activities (including violations of environmental and/or social requirements observed, actions taken), reports to environmental and/or social specialist/construction/site management; and*

xi. *community liaison person(s): days worked (hours community center open), number of people met, highlights of activities (issues raised, etc.), reports to environmental and/or social specialist /construction/site management.*

k. *Grievances: list this month's and unresolved past grievances by date received, complainant, how received, to whom referred to for action, resolution and date (if completed), data resolution reported to complainant, any required follow-up (Cross-reference other sections as needed):*

xii. *Worker grievances;*

xiii. *Community grievances*

l. *Traffic and vehicles/equipment:*

xiv. *traffic accidents involving project vehicles & equipment: provide date, location, damage, cause, follow-up;*

xv. *accidents involving non-project vehicles or property (also reported under immediate metrics): provide date, location, damage, cause, follow-up;*

xvi. *overall condition of vehicles/equipment (subjective judgment by environmentalist); non-routine repairs and maintenance needed to improve safety and/or environmental performance (to control smoke, etc.).*

m. *Environmental mitigations and issues (what has been done):*

xvii. *dust: number of working bowsers, number of waterings/day, number of complaints, warnings given by environmentalist, actions taken to resolve; highlights of quarry dust control (covers, sprays, operational status); % of rock/muram/spoil lorries with covers, actions taken for uncovered vehicles;*

xviii. *erosion control: controls implemented by location, status of water crossings, environmentalist inspections and results, actions taken to resolve issues, emergency repairs needed to control erosion/sedimentation;*

xix. *quarries, borrow areas, spoil areas, asphalt plants, batch plants: identify major activities undertaken this month at each, and highlights of environmental and social protection: land clearing, boundary marking, topsoil salvage, traffic management, decommissioning planning, decommissioning implementation;*

xx. *blasting: number of blasts (and locations), status of implementation of blasting plan*

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(including notices, evacuations, etc.), incidents of off-site damage or complaints (cross-reference other sections as needed);

xxi. spill cleanups, if any: material spilled, location, amount, actions taken, material disposal (report all spills that result in water or soil contamination);

xxii. waste management: types and quantities generated and managed, including amount taken offsite (and by whom) or reused/recycled/disposed on-site;

xxiii. details of tree plantings and other mitigations required undertaken this month;

xxiv. details of water and swamp protection mitigations required undertaken this month.

n. compliance:

xxv. compliance status for conditions of all relevant consents/permits, for the Work, including quarries, etc.): statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance;

xxvi. compliance status of ESMP/ESIP requirements: statement of compliance or listing of issues and actions taken (or to be taken) to reach compliance

xxvii. other unresolved issues from previous months related to environmental and social: continued violations, continued failure of equipment, continued lack of vehicle covers, spills not dealt with, continued compensation or blasting issues, etc. Cross-reference other sections as needed.

3. Requirements for the preparation of the Code of Conduct

The Concessionaire shall submit the Code of Conduct that will apply to the Concessionaire's employees and subcontractors. The Code of Conduct shall ensure compliance with the ESHS provisions of the Concession Agreement, including those as may be more fully described in the following:

a. Works Requirements described in Concession Agreement;

b. Environmental and Social Impact Assessment (ESIA);

c. Environmental Management Plan (EMP);

d. Consent Conditions (regulatory authority conditions attached to any permits or approvals for the project).

Minimum Requirements for the Code of Conduct

A minimum requirement for the Code of Conduct should be set out, taking into consideration the issues, impacts, and mitigation measures identified in:

- project reports e.g. ESIA/ESMP
- consent/permit conditions

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- required standards including World Bank Group EHS Guidelines and Performance Standards
- national legal and/or regulatory requirements and standards (where these represent higher standards than the WBG EHS Guidelines and PS)
- relevant standards e.g. Workers‟ Accommodation: Process and Standards (Indian Standards, and in the absence of such Indian Standards those of IFC and EBRD)
- relevant sector standards e.g. workers accommodation
- grievances redress mechanisms.

The types of issues identified could include risks associated with: labor influx, spread of communicable diseases, sexual harassment, gender based violence, illicit behavior and crime, and maintaining a safe environment etc.

A satisfactory code of conduct will contain obligations on all project staff (including sub-contractors and day workers) that are suitable to address the following issues, as a minimum.
Compliance with applicable laws, rules, and regulations of the jurisdiction

1. Compliance with applicable health and safety requirements (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment)
2. The use of illegal substances
3. Non-Discrimination (for example on the basis of family status, ethnicity, race, gender, religion, language, marital status, birth, age, disability, or political conviction)
4. Interactions with community members (for example to convey an attitude of respect and non-discrimination)
5. Sexual harassment (for example to prohibit use of language or behavior, in particular towards women or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate)
6. Violence or exploitation (for example the prohibition of the exchange of money, employment, goods, or services for sex, including sexual favors or other forms of humiliating, degrading or exploitative behavior)
7. Protection of children (including prohibitions against abuse, defilement, or otherwise unacceptable behavior with children, limiting interactions with children, and ensuring their safety in project areas)
8. Sanitation requirements (for example, to ensure workers use specified sanitary facilities provided by their employer and not open areas)
9. Avoidance of conflicts of interest (such that benefits, Concession Agreement, or employment, or any sort of preferential treatment or favors, are not provided to any person with whom there is a financial, family, or personal connection)
10. Respecting reasonable work instructions (including regarding environmental and social norms)
11. Protection and proper use of property (for example, to prohibit theft, carelessness or waste)
12. Duty to report violations of this Code
13. Non retaliation against workers who report violations of the Code, if that report is made in good faith.

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The Code of Conduct should be written in plain language and signed by each worker to indicate that they have:

- received a copy of the code;
- had the code explained to them;
- acknowledged that adherence to this Code of Conduct is a condition of employment; and
- understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

4. Guidelines for staffing of a Core team of 3 people for implementation of the Concessionaire's ESHS obligations

S.No	Key Position	Minimum Qualifying Requirement		
		Total Work Experience (years)	**Experience in Similar Works (years)**	**Minimum Education Qualification**
1.	Health Expert & Safety Specialist*	10	5	B.E. /B. Tech or Equivalent with Specialization / additional qualification in EHS related field.
2.	Environmental Specialist *	10	5	B.E./B. Tech or Equivalent with Specialization / additional qualification in Environment related field
3.	Social Specialist*	10	5	Master‟s degree in Social Work or equivalent

* He/she should have worked as a sole expert for Urban Infrastructure projects. Experience in environment / safety / Social Risk Assessment, resettlement and rehabilitation and Management plans related to similar projects would be preferred.

5. Minimum Requirements and Guidelines for the preparation of the Screening Report

The extent of assessment required to identify and mitigate the impacts largely depends upon the complexities of project activities. The scrutiny and screening will be based on a detailed Environment and Social Screening exercise, summarized in the following Format:

Environment and Social information format for screening			
	Project Title: Implementing agency: Project cost: Project components: Project location (Area/ district)		
	Screening Criteria	**Assessment of category (High/ low)**	**Explanatory note for**

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			categorization
1	Is the project in an eco-sensitive area or adjoining an eco-sensitive area? (Yes/No) If Yes, which is the area? Elaborate impact accordingly.		
2	Will the project create significant/ limited/ no social impacts? ● Involuntary land taking resulting in loss of income from agricultural land, plantation or other existing land-use. ● Involuntary land taking resulting in relocation of title holder or non-titleholder households. ● Any reduction of access to traditional and river dependent communities (to river and areas where they earn for their primary or substantial livelihood). ● Any displacement or adverse impact on tribal settlement(s). ● Any specific gender issues.		
3	Will the project create significant / limited / no environmental impacts during the construction stage? (Significant / limited / no impacts) ● Clearance of vegetation/ tree-cover ● Direct discharge of construction run-off, improper storage and disposal of excavation spoils, wastes and other construction materials adversely affecting water quality and flow regimes. ● Flooding of adjacent areas ● Improper storage and handling of substances leading to contamination of soil and water ● Elevated noise and dust emission ● Disruption to traffic movements ● Damage to existing infrastructure, public utilities, amenities etc. ● Failure to restore temporary construction sites ● Possible conflicts with and/or disruption to local community ● Health risks due to unhygienic conditions at workers‟ camps ● Safety hazards during construction		
4	Will the project create significant / limited / no environmental impacts during the operational stage? (Significant / limited / no impacts) ● Flooding of adjacent areas ● Impacts to water quality due to effluent discharge ● Gas emissions ● Safety hazards		

5	Do projects of this nature / type require prior environmental clearance either from the MOEF&CC or from a relevant state Government department? (MOEF&CC/ relevant State Government department/ No clearance at all)		
6	Does the project involve any prior clearance from the MOEF&CC or State Forest department for either the conversion of forest land or for tree-cutting? (Yes/ No). If yes, which?		
7	Please attach photographs and location maps along with this completed Environmental Information Format For Screening.		
Overall assessment			

*Detailed explanation/ justification for arriving at specific category (high/ low) to be provided in the specified column

(Designation) (Designation)

(Address) (Address)

Environmental and Social Standards

Environmental Standards

a) The Concessionaire shall follow all the environmental standards for processing facility as per Solid Wastes Management Rules, 2016 and any amendments thereto till date. It shall also follow all those additional or stricter standards as defined in the Background Documents.

b) The Concessionaire shall meet the standards during the construction period as per the instruction or suggestion by the Independent Engineer from time to time based on the environmental standards applicable.

c) The Concessionaire shall meet the standards during the operation period as per the instruction or suggestion by the Appointed Agency/ Project Monitoring Agency from time to time as per the design requirement and applicable standards.

d) The Concessionaire shall form the Environmental Monitoring Cell (EMC) to review the effectiveness of the environment management system during the construction and operation phase of the Project Facilities. Independent Engineer shall be the Governing The AUTHORITY over the EMC functions.

e) EMC shall follow the schedule for monitoring as given in Background Documents and shall meet

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regularly to review the effectiveness of the EMP (Environmental Monitoring Programme) implementation. The data collected on various EMP measures would be reviewed by EMC and if needed corrective action will be formulated for implementation purposes.

f) The Concessionaire through EMC shall coordinate all monitoring programmes at Project Site and data thus generated shall be regularly furnished to the state regulatory agencies. The Environmental Audit reports and review shall be prepared for the entire year of operations and shall be regularly submitted to regulatory authorities.

g) The Concessionaire shall set up a well-equipped laboratory for monitoring and analysis of environmental parameters for air quality, meteorology, water, wastewater, noise, groundwater, etc based on the overall monitoring requirement as given in Background Documents.

h) The Concessionaire shall follow the QA/QC procedures for all laboratory services and strive to get the certified laboratory status from quality point of view such as ISO 9000 and other similar standards. The overall goal should also be to acquire the status of certified and recognized laboratory under MOEF, Government of India. The Concessionaire shall strive to get ISO14001 certification for the entire facility.

i) The Concessionaire shall follow the environmental issues with management action along with responsibilities as mentioned in the following table.

Environmental Issues	**Management Action**	**Implementation Responsibilities**
Project Location		
Tree Clearance	▪ EMC will prepare a detailed Transplantation and Plantation plan and monitoring the implementation	Concessionaire
Energy Conservation Plan	▪ EMC will prepare a detailed Energy Conservation plan and monitoring the implementation	Concessionaire
Loss of local fauna	▪ EMC to create plan as per EIA report and implement the same	Concessionaire
Loss of trees & vegetation in the Project area	▪ EMC will prepare a detailed plantation plan and monitoring the implementation ▪ the AUTHORITY to closely oversee the work of trees and vegetation removal or plantation	The AUTHORITY / Concessionaire
Increase in the water requirement for domestic purpose	▪ EMC to monitor and prevent the excess water consumption	Concessionaire

For reference purpose only

Stress on the surrounding marine ecosystem	▪ EMC will plan the earth movement in consultation with the Concessionaire and see to it that the mitigation measures are implemented by the contractor/ operator	Concessionaire
Change in land use pattern	▪ Preparation the landscaping and greenery plan	Concessionaire
Loss of any archeological/ cultural /historic site	▪ The operator of the facility will be planned to eliminate any odour or ▪ pollution	Concessionaire

Processing/Implementation		
Air Pollution	▪ The EMC would look into the Action of the operator on regular basis	Concessionaire
High dust level	▪ The EMC would look into the action of the contractor on a regular basis ▪ the AUTHORITY through its monitoring agency can receive a feedback and direct the agency for corrective measures	The AUTHORITY /Concessionaire
Sediment runoff	▪ EMC will plan the excavation, etc in consultation with the contractor and see to it that the mitigation measures are Implemented by the contractor	Concessionaire
Safety of workers	▪ EMC to monitor and ensure the security and safety of workers	Concessionaire
Interference with the natural drainage of the local ecosystem	▪ Possible changes in natural drainage system to be avoided ▪ AUTHORITY to closely oversee any changes in natural drainage system	The AUTHORITY /Concessionaire
Flooding in other low lying areas	▪ EMC to monitor the construction and layout plan	Concessionaire

For reference purpose only

Noise Pollution	▪ Make provision in the contract to limit the noise pollution ▪ EMC will monitor noise ▪ Low noise vehicles with proper maintenance and monitoring	Concessionaire
Disposal of excavated material	▪ EMC to monitor the quantity and disposal	Concessionaire
Safety hazard during the erection and operation	▪ Regular monitoring and reporting	Concessionaire

Operation Phase		
Air pollution due to the MSW vehicles and processing plants	▪ EMC to ensure the air pollution of facility meets the norms ▪ Regular noise monitoring and reporting	Concessionaire
Increase in power consumption	▪ EMC will prepare a detailed Energy Conservation plan and monitor the implementation with The operator of the facility	Concessionaire
High air pollution along the various transport corridors leading to and away from The site	▪ EMC will monitor pollution and inspection log of vehicles	Concessionaire
Noise pollution due to the operational activities	▪ EMC to monitor noise and give feedback for control	Concessionaire
Noise pollution along the various transport corridors leading to and away from site	▪ EMC to monitor the noise pollution	Concessionaire
Solid waste management issues	▪ EMC to monitor and report	Concessionaire
Sewage/leachate treatment issues	▪ to maintain the STP as per the standard prescribed norms. ▪ EMC to monitor the same	Concessionaire

For reference purpose only

Periphery Development	▪ The AUTHORITY initiatives to be Communicated to Concessionaire for its implementation	Concessionaire

Social Standards

a) The Concessionaire shall provide a separate clinic at the Project Site where people can approach for primary health advice.

b) The Concessionaire shall provide community and training center within the Project Site wherein multiple employments related capacity building and training activities shall be undertaken and necessary skills shall be imparted.

c) The Concessionaire shall provide an employment opportunity based on training and skill assessment. The secondary employment and/or business opportunity shall be created through the facility operator or support services.

d) The Concessionaire shall provide training and awareness to laborers at the plant, which should be a continuous activity.

e) The Concessionaire shall set up MSW management and innovation center for every-one which will be useful to locals, students and others who would wish to work in this field.

f) The Concessionaire shall give prior importance to the nearby population to get involved in the activities of horticulture, garden maintenance, energy management, etc at the Project Facilities.

For reference purpose only

SCHEDULE 14 - TESTS

(See Article 14)

1. Schedule for Tests

1.1. For determining that the Construction Works conform to the Specifications and Standards, the Independent Engineer shall require the Concessionaire to carry out or cause to be carried out tests, at such time and frequency and in such manner as may be specified by the Independent Engineer from time to time, in accordance with Good Industry Practice for quality assurance.

1.2. In the event that results of any tests conducted, any defects or deficiencies in the Construction Works observed, the Concessionaire shall carry out remedial measures and furnish a report to the Independent Engineer on this behalf.

1.3. During the Construction Period, Independent Engineer to carry tests to determine whether the Construction is being carried out in conformance with the Construction Requirements given in the Schedules to this Agreement and whether the Construction Milestones of the Project have been achieved.

1.4. The Concessionaire shall notify the Authority/Independent Engineer of its readiness to subject the Project Facilities to Tests at any time after [7 (seven)] days from the date of such notice, and upon receipt of such notice, the Authority/Independent Engineer shall, in consultation with the Concessionaire, determine the date and time for each Test and notify the same to the Authority who may designate its representative to witness the Tests. The Authority/Independent Engineer shall thereupon conduct, or cause to be conducted, any of the following Tests in accordance with Article 14 and this Schedule.

1.5. The Concessionaire shall, no later than [90 (ninety)] days prior to the likely completion of the Construction Period, notify the Authority/Independent Engineer of its intent to subject the Project Facilities to Tests, and no later than [7 (seven)] days prior to the actual date of Tests, furnish to the Authority/Independent Engineer detailed inventory and particulars of all works and equipment forming part of the Project Facilities.

1.6. Before the civil construction starts, the Concessionaire shall need to follow the entire standard tests such as soil investigations, ground water levels, hydro-geological tests, concrete grades tests, etc.

1.7. The Concessionaire shall arrange the tests as per recommendations of the manufacturer of all electrical and mechanical machinery and equipment, and the test results shall be recorded in the presence of the Independent Engineer.

1.8. The Concessionaire shall arrange the tests of electrical equipment as per the requirement of the supply company and the test reports shall be

1.9. furnished to them to get the electric supply. Similarly, any test required to be carried out as per Supply Company requirements shall be carried out in presence of the Independent Engineer.

1.10. All tests in relation to the electrical equipment shall be conducted by the licensed electrical contractors only.

For reference purpose only

1.11. The relevant tests to be conducted shall be finalized by the Concessionaire in consultation with the Independent Engineer from time to time.

2. Tests

2.1. In pursuance of the provisions of Article 14.12.2 of this Agreement, the Authority/Independent Engineer shall conduct, or cause to be conducted.

2.2. Visual and Physical Test

The Authority/Independent Engineer shall conduct a visual and physical check of the Project Facilities, to determine that all works and equipment forming part thereof conform to the provisions of this Agreement.

2.3. Trial run

The Authority/Independent Engineer shall require the Concessionaire to carry out or cause to be carried out a trial run of all equipment, facilities and systems to determine that the Project Facilities are in conformity with the provisions of this Agreement.

2.4. Tests for equipment

The Authority/Independent Engineer shall conduct or cause to be conducted Tests, in accordance with Good Industry Practice, for determining the compliance of all systems and equipment comprising the Project Facilities.

3. Environmental audit:

The Authority/Independent Engineer shall carry out a check to determine conformity of the Project with the environmental requirements set forth in Applicable Laws and Applicable Permits.

4. Safety review:

The Authority/Independent Engineer shall carry out a safety audit of the Project to determine its compliance with the provisions of this Schedule and this Agreement.

5. Agency for Conducting Tests

All Tests set forth in this Schedule shall be conducted by the Authority/Independent Engineer or such other agency or person as it may specify in consultation with the Authority.

6. Inspection by the Authority/Independent Engineer

Upon successful completion of Tests, the Independent Engineer shall submit an Inspection Report in accordance with the provisions of Article 14.

For reference purpose only

SCHEDULE 15 - FORMAT FOR [MILESTONE] COMPLETION CERTIFICATE

(See Article 14)

To whom it may concern

In consideration of the requirements of conditions of the Agreement and the Concessionaire's application for a Completion Certificate, the Authority hereby grants the Completion Certificate.

This Completion Certificate is issued on the understanding that the conditions of the Agreement have been met except for minor outstanding work that does not affect the use and safety of the [Reclaimed Land/Project Facilities] and their intended use as certified by Authority through its letter dated [•].

Completion Certificate does not relieve the Concessionaire of any requirements or obligations within the Agreement.

Signed this …….. day of ……., 20 …… at ……...

AGREED, ACCEPTED AND SIGNED

SIGNED, SEALED AND DELIVERED

For and on behalf of	For and on behalf of
Concessionaire by:	Authority by:
(Signature)	(Signature)
(Name)	(Name)

For reference purpose only

COMPLETION CERTIFICATE

1 I,(Name of the Independent Engineer), acting as Independent Engineer, under and in accordance with the Concession Agreement dated.....(the Agreement ‖),for [Name of work], through .....(Name of Concessionaire), hereby certify that the Tests specified in Article 16 and Schedule 7 of the Agreement have been successfully undertaken to determine compliance of the Project with the provisions of the Agreement, and I am satisfied that the Project can be safely and reliably placed in commercial service.

2 It is certified that, in terms of the aforesaid Agreement, all works forming part of Project have been completed, and the Project is hereby declared fit for entry into commercial operation on this the ……
Day of…… 20…..

SIGNED, SEALED AND DELIVERED
For and on behalf of the INDEPENDENT ENGINEER by:

(Signature) (Name)(Designation)(Address)

For reference purpose only

PROVISIONAL CERTIFICATE

I/We ..... {Enter the name of the Independent Engineer} acting as Independent engineer, under and in accordance with the Concession Agreement dated ……. (the **"Agreement"**) for Implementation of **"[Name of work]** ("the **"Project"**) through …… {insert the name of the Concessionaire}, hereby certify that verification and tests as specified in Article 4 and Scheduled 8 of the Agreement have been undertaken for the Project to determine compliance thereof with the provision of the Agreement.

All the works forming part of the Project of the Integrated Solid Waste Management, that were found to be incomplete and/or deficient have been specified in the Punch List appended hereto, and the Concessionaire has agreed and accepted that it shall complete and/or rectify all such works in the time and manner set forth in the Agreement. [Some of the incomplete works have been delayed as a result of reasons not attributable to the concessionaire or due to Force Majeure and the Provisional readiness Certificate cannot be withheld on this account. Though the remaining incomplete works have been delayed as a result of reasons attributable to the Concessionaire,][1] I/We am/are satisfied that having regard to the nature and extent of such complete works, it would not be prudent to withhold commercial operation of Regional Integrated Solid Waste Management Project pending for completion.

In view of the foregoing, I/we am/are satisfied that the operations or part thereof the [Name of work]..... can be partially or fully started for delivery of services to the users thereof, and in-terms of the Agreement, the Integrated Solid waste Management Project,
..... is hereby provisionally declared fit to start the operations or the part thereof on this the .....day of …… 202_

ACCEPTED, SIGNED, SEALED AND DELIVERED
For and on behalf of CONCESSIONAIRE by:

(Signature)
(Name and Designation) Address

May be Struck out if not applicable. Also strike out other parts which are not applicable

ACCEPTED, SIGNED, SEALED AND DELIVERED
For and on behalf of INDEPENDENT ENGINEER by:
(Signature)
(Name and Designation) Address

For reference purpose only

SCHEDULE 16 - FORMAT FOR DAILY WEIGHT SHEET

(See Article 18)

The same may be altered to include additional items by the Authority at its discretion.

Weighbridge details	
Location	
Capacity	
Date	
Time in	
Time out	
Truck no.	
Tier weight (tons)	
Full weight (tons)	
Waste quantity (Full weight – tier weight)	

For reference purpose only

SCHEDULE 17 - ESCROW AGREEMENT

(See Article 19)

[This Agreement format is subject to change as per the discretion of the Authority]

THIS ESCROW AGREEMENT is entered into on this the……..day of 20….

AMONGST

(1) The [Name of the Authority], incorporated under the [Name of the Act under which incorporated], represented by its [Municipal Commissioner] and having its principal offices at ***, India (hereinafter referred to as the "**Authority**" which expression shall unless repugnant to the context or meaning thereof include its administrators, successors and assigns);

AND

(2) [Name of the Concessionaire], a company organized, incorporated, registered and existing under the Companies Act, with its registered office at [•] acting through [•], [Name of the authorised signatory and his/her designation] duly authorized by resolution dated [Date of the Board Resolution] (hereinafter referred to as the "**Concessionaire"**, which expression shall, unless it be repugnant to the context or meaning thereof, include its successors and permitted assigns)

AND

(4) [Name of Escrow Bank], a bank duly constituted in accordance with Applicable Laws and carrying on the business of banking in India as a Scheduled Commercial Bank, with its registered office at [•] and acting for the purposes of this Escrow Agreement through its branch office at [•] (hereinafter referred to as the "**Escrow Bank"**, which expression shall unless repugnant to the context or meaning thereof includes its successors and permitted assigns).

The Authority, the Concessionaire and the Escrow Bank are collectively referred to as **Parties** and individually as **Party**.

WHEREAS:

A. The Authority has decided to undertake the development and operation of an integrated solid waste management system and reclamation of land through bioremediation of legacy waste on a PPP basis, through a DBFOT model.

B. For this purpose, the Authority have entered into a Concession Agreement dated with the Concessionaire (the "**Concession Agreement**") for development and operation of integrated solid waste management system and reclamation of land through bioremediation of legacy waste on hybrid annuity basis at_____, in the State of [Name of the State], and a copy of which is annexed hereto and marked as Annex-A to form part of this Agreement.

C. In consideration of the Concessionaire designing, engineering, part-financing, procuring, constructing, installing, commissioning, operating and maintaining the Project on the Site(s) for the Concession Period, the Authority is required to pay the Concessionaire: (i) during the Construction Period, the Construction Payments upon satisfactory completion of works corresponding to Payment Milestones; and (ii) during the O&M Period, O&M Payments

For reference purpose only

comprising the Capex Annuity (along with interest), the O&M Charges and the Power Charges for the Project Facilities at actuals (subject to a cap based on the Guaranteed Energy Consumption).

D. As per the provisions of the Concession Agreement, the Authority, the State Government, the Concessionaire are required to enter into an escrow agreement with an escrow bank and is required to open an escrow account with such escrow bank and maintain the Minimum Escrow Balance for the payment of the Construction Payments and the O&M Payments.

E. The escrow account shall be funded by the Authority in accordance with the terms of this Escrow Agreement and such account shall serve to secure the Authority payment obligations towards the Concessionaire under the Concession Agreement.

F. The Escrow Bank is willing to serve as an escrow bank in accordance with the terms and conditions of this Escrow Agreement.

NOW, THEREFORE, the Parties hereto agree as follows:

1. DEFINITIONS AND INTERPRETATION

1.1. Capitalized terms used but not defined in this Escrow Agreement shall have the meaning given to them in the Concession Agreement.

1.2. In this Escrow Agreement, unless the context otherwise requires:

(a) Any reference to a statutory provision shall include such provision as modified or re-enacted or consolidated from time to time.

(b) The words importing the singular shall mean the plural and vice-versa; and words importing the masculine shall include the feminine and neuter and vice-versa.

(c) Headings in this Escrow Agreement are for convenience of reference only.

(d) The references to the word 'include' or 'including' or to the phrase 'in particular', shall be construed without limitation.

(e) References to any date or time of day are to Indian Standard Time; any reference to day shall mean a reference to a calendar day; any reference to a month shall mean a reference to a calendar month, any reference to a year shall mean a reference to a calendar year.

(f) The references to any agreement or deed or other instrument shall be construed as a reference to such agreement, deed, or other instrument as may be amended, varied, supplemented or novated, from time to time.

(g) Whenever provision is made for the giving or issuing of any notice, endorsement, consent, approval, permission, certificate or determination by any person, such notice, etc., shall be reasonably given, shall not be unreasonably withheld or delayed and shall be in writing. Where any notice, consent or approval is to be given by either of the Parties, the notice, consent or approval shall be given on their behalf only by any authorized persons.

For reference purpose only

(h) The words written and in writing include a facsimile transmission and any means of reproducing works in a tangible and permanently visible form.

(i) The provisions of the clauses of this Escrow Agreement shall be interpreted in such a manner that will ensure that there is no inconsistency in interpretation between the intent expressed in the clauses.

(j) In the event of any ambiguities or discrepancies between two clauses of this Escrow Agreement, the provisions of the specific clause relevant to the issue under consideration shall prevail over those in other clauses.

(k) The rule of construction, if any, that an agreement should be interpreted against the Party responsible for the drafting and preparation thereof shall not apply to this Escrow Agreement.

2. ESCROW ACCOUNT

2.1. Appointment

(a) The State Government, the Authority and the Concessionaire hereby appoint the Escrow Bank to serve as the escrow bank for the purposes of this Escrow Agreement and the Escrow Bank hereby accepts this appointment.

(b) The Authority hereby settled in trust with the Escrow Bank a sum of INR 1,000 (Rupees one thousand). The Escrow Bank has accepted the above amount of INR 1,000 (Rupees one thousand) in trust declared and, subject to the terms and conditions in this Escrow Agreement, agreed to act as trustee for the benefit of the Concessionaire and the Authority.

(c) The Escrow Bank shall hold and safeguard the Escrow Account and any monies held therein, during the term of this Escrow Agreement and shall treat the amount in the Escrow Account as monies deposited by the Authority with the Escrow Bank in trust in accordance with the provisions of this Escrow Agreement.

(d) In performing its functions and duties under this Escrow Agreement, the Escrow Bank shall act as an agent of the Authority and the Concessionaire.

2.2. Escrow Account

(a) The State Government has established a bank account in the name of **[●]** (*name of account and account number*), with **[●]** (*name of the bank*), which shall be an interest bearing, no lien account, denominated in Indian Rupees for the benefit of the Concessionaire (the "**Escrow Account"**).

(b) The Escrow Bank shall provide details of the Escrow Account in writing to the Concessionaire and the Authority, including the date of opening of the Escrow Account.

(c) The Parties agree and acknowledge that:

(i) the Escrow Account shall be opened pursuant to, and specifically for the purposes of, this Escrow Agreement and shall be used and operated only for the purposes and in the manner provided in this Escrow Agreement and for no other use or purposes and in no other manner;

For reference purpose only

(ii) the Escrow Bank shall maintain the Escrow Account in accordance with the terms of this Escrow Agreement and its usual practices and applicable regulations;

(iii) the Escrow Bank and the Concessionaire, after consultation with the Authority shall agree on the detailed mandates, terms and conditions and operating procedures for the Escrow Account but in the event of any inconsistency between this Escrow Agreement and such mandates, terms and conditions or procedures in this Escrow Agreement shall prevail; and

(iv) no instruction shall be given to the Escrow Bank which is not contemplated by or which is contrary to or inconsistent with this Escrow Agreement. In the event any such inconsistent or contrary instruction is given, the same shall be null and void and the Escrow Bank shall not be obliged to act upon, and shall ignore, such instructions and continue to comply with the provisions of this Escrow Agreement.

2.3. Deposits into Escrow Account

(a) Minimum Escrow Balance

At all times, to maintain the minimum balance in the Escrow Account (the **"Minimum Escrow Balance"**):

(i) State Government or the Authority shall deposit in the Escrow Account an amount equivalent to the

(ii) on and from the COD and during the O&M Period, the State Government or the Authority shall deposit the O&M Payments in the Escrow Account such that the Escrow Account is funded at all times, the amount equivalent to next [3 (three)] O&M Payments for the Project Facilities, in accordance with Article 18.1.6 of the Agreement,

(b) The Authority shall ensure that the minimum balance in the Escrow Account at all times during the Concession Period is not less than the Minimum Escrow Balance.

If at any time during the Construction Period or the O&M Period, the balance in the Escrow Account falls below the Minimum Escrow Balance, the State Government or the Authority shall promptly, and in any event, no later than 90 (ninety) days, fund the Escrow Account such that the Minimum Escrow Balance is maintained.

The Parties agree that a failure to maintain the Minimum Escrow Balance for 90 (ninety) days would be treated as an Authority Event of Default or State Government Event of Default and in such case, the consequences set out in the Concession Agreement shall apply.

(c) It is clarified that any interest earned on the amounts deposited by Authority in the Escrow Account will be counted towards the Minimum Escrow Balance.

2.4. Withdrawals from Escrow Account during the Construction Period

(a) Upon successful completion and verification of a Payment Milestone as per the

Concession Agreement, the Authority is required to approve the Invoice raised by the Concessionaire within 7 (ten) days of receipt of the Invoice and issue a Payment Certificate to the Escrow Bank. The Payment Certificate shall convey the Authority's approval for the release of the amount specified in the Invoice for the relevant Payment Milestone, less any necessary deductions or adjustments in accordance with the Concession Agreement and/or Applicable Laws (including for payments to be made by the Concessionaire under applicable labour laws).

(b) If, within 7 (seven) days from the date of receipt of an Invoice, the Authority does not dispute an Invoice, then the Invoice shall be deemed to have been accepted by the Authority, and the Concessionaire may issue instructions to the Escrow Bank (with a copy to the Authority) to release the amounts specified in the Invoice, upon the expiry of the 7 (seven) day period. Any such instruction issued by the Concessionaire to the Escrow Bank shall be accompanied with the Invoice raised by the Concessionaire for the relevant Payment Milestone.

(c) Immediately upon receipt of a Payment Certificate from the Authority in accordance with clause 2.4(a) above or upon receipt of instructions from the Concessionaire in accordance with clause 2.4(b), the Escrow Bank shall release the amount specified in the Payment Certificate or if no Payment Certificate has been issued, then the amount specified in the relevant Invoice to the bank account of the Concessionaire mentioned below :
Bank:
Account number: BIC (SWIFT):
Address of Bank:
[**Insert bank account details**]

The Concessionaire may change the above bank account details by giving a 5 (five) day prior written notice to the Escrow Bank, the Authority.

(d) Upon any termination of the Concession Agreement during the Construction Period of the Project Facilities, the State Government or the Authority shall issue instructions to the Escrow Bank requesting it to release and transfer any amounts due and payable to the Concessionaire, including termination payments, if any, as certified by the Authority and the State Government in a statement and any remaining amounts standing to the credit of the Escrow Account shall be transferred to the following account of the Authority/State Government:
Bank:
Account number: BIC (SWIFT):
Address of Bank:
[**Insert bank account details**]

The Authority may change the above bank account details by giving 5 (five) day prior written notice to all the Parties to this Escrow Agreement.

2.5. Withdrawals from Escrow Account during the O&M Period

(a) For O&M Payments in each [month/quarter], the Authority is required to approve the Invoice raised by the Concessionaire within 7 (seven) days of receipt of the Invoice and issue a Payment Certificate to the Escrow Bank. The Payment Certificate shall convey the Authority's approval for the release of the amount specified in the Invoice, less any

For reference purpose only

necessary deductions or adjustments in accordance with the Concession Agreement and/or Applicable Laws (including for payments to be made by the Concessionaire under applicable labour laws).

(b) If, within 7(seven) days from the date of receipt of an Invoice, the Authority does not dispute an Invoice, then the Invoice shall be deemed to have been accepted by the Authority, and the Concessionaire may issue instructions to the Escrow Bank (with a copy to the Authority to release the amounts specified in the Invoice, upon the expiry of the 7(seven) day period. Any such instruction issued by the Concessionaire to the Escrow Bank shall be accompanied with the Invoice raised by the Concessionaire.

(c) Immediately upon receipt of a Payment Certificate from the Authority in accordance with clause 2.5(a) above or upon receipt of instructions from the Concessionaire in accordance with clause 2.5(b), the Escrow Bank shall release the amount specified in the Payment Certificate, or if no Payment Certificate has been issued, then the amount specified in the relevant Invoice to the bank account of the Concessionaire mentioned below:
Bank:
Account number:
BIC (SWIFT):
Address of Bank:
[Insert bank account details]

The Concessionaire may change the above bank account details by giving a 5 (five) day prior written notice to the Escrow Bank, the Authority.

(d) Upon any termination of the Concession Agreement during the O&M Period, Authority shall issue instructions to the Escrow Bank requesting it to release and transfer any amounts due and payable to the Concessionaire, including termination payments, if any, as certified by Authority in a statement and any remaining amounts standing to the credit of the Escrow Account shall be transferred to the following account of Authority:
Bank:
Account number:
BIC (SWIFT):
Address of Bank:
[Insert bank account details]

The Authority may change the above bank account details by giving 5 (five) day prior written notice to all the Parties to this Escrow Agreement.

2.6. The Authority shall have the right, and the Concessionaire hereby expressly grants to the Authority the right, to recover the costs and Damages directly from the Escrow Account, and for that purpose, the Concessionaire hereby agrees to give irrevocable instructions to the Escrow Bank to make payment from the Escrow Account in accordance with the instructions of the State Government or the Authority. Any demand from the State Government or the Authority stating that a specified amount is payable shall be final, binding and conclusive on the Concessionaire and Escrow Bank and Escrow Bank shall pay and Concessionaire shall cause the Escrow Bank to pay such amount without any demur, delay, cavil or protest on receiving a demand for such costs and Damages.

2.7. Identification and Separation

For reference purpose only

The Escrow Bank shall clearly identify in its records the Escrow Account as an escrow account and shall keep the funds standing to the credit of the Escrow Account separated and segregated from the Escrow Bank's own funds or funds of any of its other customers or third parties.

2.8. Fees

The State Government shall pay [Rs. [•] per annum] as fees to the Escrow Bank for the establishment and management of the Escrow Account. The State Government shall pay such fees to the Escrow Bank within 10 (ten) days of receipt of an invoice from the Escrow Bank.

2.9. Escrow Account Statements

The Escrow Bank shall provide monthly statements regarding the Escrow Account to the State Government, the Authority and the Concessionaire.

3. ESCROW AMOUNT

3.1. Promptly upon the State Government or the Authority transferring any amount to the Escrow Account, the Escrow Bank shall send a notice to the Concessionaire, the Authority notice informing them of the transfer.

3.2. The Escrow Bank shall hold all amounts in the Escrow for the benefit of both the Concessionaire, the Authority. Subject to clause 2.4(d) and clause 2.5(d) of this Escrow Agreement, the Escrow Bank shall not release any amount in the Escrow Account to any person other than the Concessionaire.

3.3. The Escrow Bank shall not apply any right of set-off against the amount in the Escrow Account, grant any lien over such amount, or apply any fee or deduction in relation to such amount.

4. RIGHTS, DUTIES AND OBLIGATIONS OF THE ESCROW BANK

4.1. The Escrow Bank

(a) may, in the absence of bad faith, fraud, willful default or gross negligence on its part, rely as to any matters of fact which might reasonably be expected to be within the knowledge of the Authority, as the case may be, upon a certificate signed by or on behalf of the Authority, as the case may be;

(b) may, in the absence of bad faith, fraud, willful default or gross negligence on its part, rely upon the authenticity of any communication or documents believed by it to be authentic;

(c) shall, within 5 (five) days after receipt, deliver a copy to the Authority of any notice or document received by the Escrow Bank from the Concessionaire or any other Person hereunder or in connection herewith;

(d) shall, within 5 (five) days after receipt, deliver a copy to the Concessionaire of any notice or document received by the Escrow Bank from the State Government or the Authority in connection herewith; and

(e) shall maintain all records of deposits and withdrawals from the Escrow Account for the term of this Escrow Agreement.

4.2. The duties of the Escrow Bank are only as herein specifically provided, and are purely

For reference purpose only

administrative in nature. The Escrow Bank shall neither be liable for, nor chargeable with knowledge of, the terms and conditions of any other agreement, instrument or document in connection herewith, including, without limitation, the Concession Agreement, and shall be required to act in respect of the amounts in the Escrow Account only as provided in this Escrow Agreement. This Escrow Agreement sets out all the obligations of the Escrow Bank with respect to any and all matters pertinent to the Escrow Account contemplated hereunder and no additional obligations of the Escrow Bank shall be implied from the terms of any other agreement. The Escrow Bank shall incur no liability in connection with the discharge of its obligations under this Escrow Agreement or in connection therewith, except such liability as may arise from the Escrow Bank's negligence, willful misconduct or otherwise from any breach of this Escrow Agreement. Such liability, however, shall not exceed the amount in the Escrow Account at the date of the said breach by the Escrow Bank.

4.3. The Escrow Bank shall not be required to perform any act which will violate any Applicable Laws.

4.4. In the event of any bankruptcy proceedings or enforcement proceedings against any of the Parties pursuant to Applicable Laws, the Escrow Bank shall, notwithstanding the provisions of this Escrow Agreement, act and perform in accordance with Applicable Laws.

5. ESCROW AGREEMENT DEFAULTS

5.1. The following events shall constitute an event of default by the Concessionaire (an **Escrow Default**), unless such event of default has occurred as a result of any act or omission of the State Government or the Authority:

(a) in case the Concessionaire diverts funds drawn from the Escrow Account for a project/activity/usage other than the Project, and fails to cure such breach by not depositing an equal amount in the Escrow Account within 5 (five) days; or

(b) in the case of any other breach, by failing to remedy the breach within 5 (five) days to the satisfaction of the Authority.

5.2. The Parties agree that an Escrow Default in terms of this Escrow Agreement shall be treated as a Concessionaire Event of Default under the Concession Agreement, and the consequences of an Escrow Default shall be dealt with in accordance with the Concession Agreement.

5.3. Upon the occurrence of an Escrow Default, the Concessionaire agrees that the Authority shall have the right to direct the Escrow Bank to suspend withdrawals from the Escrow Account until further notice from the State Government or the Authority.

6. MISCELLANEOUS

6.1. Representations and Warranties

Each Party represents and warrants that:

(a) it has the authority to enter into this Escrow Agreement;

(b) this Escrow Agreement constitutes a legally valid and binding obligation, enforceable

For reference purpose only

against it in accordance with its terms;

(c) its entry into and/or performance under this Escrow Agreement will not be in breach of any express or implied terms of any contract with or other obligation to any third party; and

(d) it is solvent and able to perform all of its obligations under this Escrow Agreement.

6.2. Notices

Any notice or other communication to be given or made under this Escrow Agreement to the Parties shall be in writing. Except as otherwise provided in this Escrow Agreement, such notice, request or other communication shall be delivered by registered mail or facsimile to the Party(ies) at the following addresses:

[State Department of Urban Development]:

Attention: ---____-_____-_____-
Tel:
Fax:
Address:

Email:

[Name of the Authority]:

Attention: ---____-_____-_____-
Tel:
Fax:
Address:
Email:

[Concessionaire]:

Attention: ---____-_____-_____-
Tel:
Fax:
Address:
Email:

[Escrow Bank]:
Attention: ---____-_____-_____-
Tel:
Fax:
Address:
Email:

For reference purpose only

6.3. Entire Agreement

This Escrow Agreement and the Concession Agreement constitutes the entire agreement and understanding between the Parties with respect to its subject matter (i.e., escrow arrangement), and replaces and supersedes all prior agreements, arrangements, undertakings or statements regarding such subject matter.

6.4. Amendments

No variation of or amendment to this Escrow Agreement shall be effective unless made in writing and executed by all the Parties hereto.

6.5. Harmonious Construction

For the purpose of giving full and proper effect to this Escrow Agreement, the Concession Agreement and this Escrow Agreement shall be read together and construed harmoniously. The terms of the Concession Agreement shall prevail in the event of any inconsistencies with this Escrow Agreement.

6.6. Assignment

Neither this Escrow Agreement nor any of the rights or obligations hereunder may be assigned by a Party without the prior written consent of the other Parties, provided that the Concessionaire shall be entitled, to the extent permitted by Applicable Law and as may be required under any Financing Documents entered into by the Concessionaire, to assign or create liens over its rights and interests under or pursuant to this Escrow Agreement.

6.7. Severability

Whenever possible, each provision of this Escrow Agreement shall be interpreted in such a way as to be effective and valid under Applicable Law, but if any provision of this Escrow Agreement is unenforceable or invalid under Applicable Law, such provision shall be ineffective only to the extent of such unenforceability or invalidity, and the remaining provisions of this Escrow Agreement shall continue to be binding and in full force and effect.

6.8. Confidentiality

The Parties, their employees, representatives and agents shall keep the provisions of this Escrow Agreement strictly confidential and, except as may be required by Applicable Laws, shall make no disclosure thereof to any Person, except the Parties' respective legal counsels and professional advisers, without the prior written consent of the other Parties.

6.9. Termination

This Escrow Agreement shall be automatically terminated upon the expiry of the Concession Period or termination of the Concession Agreement and after disbursement of all amounts due and payable to the Concessionaire under the Concession Agreement, including Termination Compensation, if any, and any remaining amounts to the State Government or the Authority in accordance with clause 2.4(d) and clause 2.5(d) of this Escrow Agreement.

6.10. Dispute Resolution Mechanism

(a) If any dispute arises out of or in connection with this Escrow Agreement, this dispute shall not affect the Parties' duty to continue the performance of all of their undisputed

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obligations.

(b) If any dispute arises, a Party shall give notice to the other Parties of the same, whereupon the Parties shall meet promptly and in good faith to attempt to reach an amicable settlement.

(c) All disputes not settled amicably pursuant to (b) above shall be heard by the competent courts of [State of Project].

6.11. Governing Law

This Escrow Agreement shall be governed by and construed in accordance with the laws of India.

For reference purpose only

IN WITNESS WHEREOF THE PARTIES HAVE EXECUTED AND DELIVERED THIS AGREEMENT AS OF THE DATE FIRST ABOVE WRITTEN.

THE COMMON SEAL OF THE CONCESSIONAIRE has been affixed pursuant to the resolution passed by the Board of Directors of the Concessionaire at its meeting held on the …… day of 20…… hereunto affixed in the presence of……, Director, who has signed these presents in token thereof and ……, Company Secretary / Authorised Officer who has countersigned the same in token thereof [33:]

SIGNED, SEALED AND DELIVERED
For and on behalf of STATE GOVERNMENT by the
State Government Representative:

(Signature) (Name) (Designation) (Address) (Fax No.)
(E-mail address)

SIGNED, SEALED AND DELIVERED
For and on behalf of AUTHORITY by the
State Government Representative:

[33]To be affixed in accordance with the articles of association of the Concessionaire.

(Signature) (Name) (Designation) (Address) (Fax No.)
(E-mail address)

SIGNED, SEALED AND DELIVERED
For and on behalf of ESCROW BANK by the
State Government Representative:

(Signature) (Name) (Designation) (Address) (Fax No.)
(E-mail address)

In the presence of:

1. 2.

For reference purpose only

SCHEDULE 18 - TERMINATION COMPENSATION
[DELETED]

For reference purpose only

SCHEDULE 19 - CRITERIA FOR PREPARING THE LIST OF CHARTERED ACCOUNTANT FIRMS

(See Article 30.2)

The Firm of Chartered Accountants (FCA):

1. Should be in operation for the past 10 (ten)years
2. Should not have been barred or blacklisted by any entity like Central, State Government Body or Public Sector Undertaking PSU (Central/State) or any other Statutory Body.
3. Should have a branch in [Name of the State]
4. Should have at least 3 (three) qualified Chartered Accountants out of whom at least 1 (one) should be FCA.

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SCHEDULE 20 – DESCRIPTION OF SITE AND DISPOSAL FACILITY

Sl. No	Name of Site/ Proposed Project Facility	Status of Dumping site/ Trenching ground/ Landfill	Total Area Available (In Acres)
1			
2			
3			
4			

Description of Site for Integrated Processing & Disposal Facility

The size of the proposed site for development of regional landfill site would be around _____Hectares.

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SCHEDULE 21 – PERFORMANCE SECURITY

[This format is subject to change as per the discretion of the Authority]

The Commissioner, AUTHORITY WHEREAS:

1 (the—**Concessionaire**‖) the—**BSWML** ‖have entered into a Concession Agreement dated (the —**Agreement**‖) whereby the AUTHORITY has agreed to the Concessionaire undertaking Integrated Solid Waste Management at [*Place*] on design, build, finance, operate and transfer (—**DBFOT**‖)basis, subject to and in accordance with the provisions of the Agreement.

2 The Agreement requires the Concessionaire to furnish a Construction Performance Security to the AUTHORITY, for an amount of INR.__(the —**Guarantee Amount**‖) as security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the Construction Period (as defined in the Agreement).

3 We,……..through our Branch at (the—**Bank**‖) have agreed to furnish these Bank Guarantees by way of Construction Performance Security.

NOW, THEREFORE, the Bank hereby, unconditionally, and irrevocably, guar antes and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Concessionaire‘s obligations during the Construction Period, under and in accordance with the Agreement, and agrees and undertakes to pay to the AUTHORITY, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Concessionaire, such sum or sums up to an aggregate sum of the Guarantee Amount as the AUTHORITY shall claim, without the AUTHORITY being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.
2. A letter from the AUTHORITY, under the hand of the Municipal Commissioner, the AUTHORITY that the Concessionaire has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the AUTHORITY shall be the sole judge as to whether the Concessionaire is in default in due and faithful performance of its obligations during the Construction Period under the Agreement and its decision that the Concessionaire is in default shall be final, and binding on the Bank, notwithstanding any differences between the AUTHORITY and the Concessionaire, or any dispute between them pending before any court, tribunal, arbitrators or any other AUTHORITY or body, or by the discharge of the Concessionaire for any reason whatsoever.

3. In order to give effect to this Guarantee, the AUTHORITY shall been titled to act as if the Bank were the principal debtor and any change in the constitution of the Concessionaire and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the AUTHORITY to

For reference purpose only

proceed against the Concessionaire before presenting to the Bank its demand under this Guarantee.

5. The AUTHORITY shall have the liberty, without affecting in any manner the liability of the Bank under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfilment and/ or performance of all or any of the obligations of the Concessionaire contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the AUTHORITY against the Concessionaire, and either to enforce or forbear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the AUTHORITY, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the AUTHORITY of the liberty with reference to the matters aforesaid or by reason of time being given to the Concessionaire or any other forbearance, indulgence, act or omission on the part of the AUTHORITY or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the AUTHORITY in respect of or relating to the Agreement or for the fulfilment, compliance and/or performance of all or any of the obligations of the Concessionaire under the Agreement.

7. Not withstanding anything contained herein before, the liability of the Bank under this Guarantee will remain in force until compliance of the conditions specified in Paragraph 8 below and unless a demand or claim in writing is made by the AUTHORITY on the Bank under this Guarantee, no later than 6 (six) months from the date of expiry of this Guarantee, all rights of the AUTHORITY under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Performance Security will be valid till _____.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the AUTHORITY in writing and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred Branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when it ought to have been delivered indue course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the AUTHORITY that the envelope was so posted shall be conclusive.

11. This Guarantee shall come into force with immediate effect and shall remain in force sand effect for a period specified in Paragraph 8 above.

Signed and sealed this…….day of……..,20……at……..

For reference purpose only

SIGNED, SEALED AND s DELIVERED

For and on behalf of the Bank by

(Signature)

(Name)(Designation)(Code

Number) (Address)

NOTES:

i. The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee

ii. The address, telephone number and other details of the Head Office of the Bank as well as of issuing Branch should be mentioned on the covering letter of issuing Branch.

For reference purpose only

SECTION 1 : GENERAL SPECIFICATIONS

1. General Guidelines

The minimum facilities to be provided in the Integrated Processing & Disposal Facility and Facilities which are to be implemented by the Concessionaire as part of the Project have been highlighted in this Schedule.

The Integrated Solid Waste Processing & Disposal Facility shall conform to the minimum design requirements set out in this Schedule and to the ISW Management & Handling Rules, 2016.

The net area available for development of Integrated Solid Waste Processing & Disposal Facility including waste processing units is about ___Hectare land shall be allotted in _____whereas the **Bengaluru Solid Waste Management Limited (BSWML)** of facilities as described in Schedule 1. The area utilization for development of the project facilities, as specified in this schedule, shall be as per the Applicable Laws, Good Industry Practices and in accordance with the construction requirements as set out hereunder.

All design and works have to be conducted in such a manner so that Integrated Solid Waste Processing & Disposal Facility has a service life of minimum Thirty (30) years w.e.f COD Integrated Solid Waste Processing & Disposal Facility. Further, the Concessionaire shall provide the design of the proposed system with the material balance of the waste and a flow chart describing the complete process and capacity of each component with the justification of its adequacy to be able to handle the generated waste of the project area during the entire project life and get it approved by the Independent Engineer (IE) and the Authority before commencement of project construction.

The Concessionaire shall follow general guidelines of the building design including energy conservation methods, an aesthetic look and vertical design to minimize ground coverage for architecture of the proposed facility.

The Concessionaire shall take over the site proposed as per the CPCB guideline and SWM rules to be used for development of the Integrated Solid Waste Processing & Disposal Facility for the project; and build a secure boundary wall, Good motorable road to site will be provided by BSWML and internal roads (as required); establish inspection areas; a waste receiving area; a material recovery/ segregation Facility; a waste treatment/ processing system with appropriate controls; a scientific landfill for disposal of rejects/inert (including all allied facility like leachate treatment & management facility), a digester for dead animals, storm-water management, infrastructure required for providing utilities such as electricity, water from the Integrated Solid Waste Processing & Disposal Facility periphery to within the Integrated Solid Waste Processing & Disposal Facility and other facilities such as weigh bridge and other buildings as per the proposed & accepted Design. Further, the Concessionaire shall provide a temporary arrangement, as identified by the Concessionaire in the DPR prepared during the Planning Phase, for handling the waste during the Interim Phase.

2. INTEGRATED SOLID WASTE PROCESSING & DISPOSAL FACILITIES

A). The Integrated Processing & Disposal Facility infrastructure has been divided into four parts:

i. Common infrastructure for the processing facility and landfill;
ii. Material Recovery Facility, if required;
iii. Waste processing facility;
iv. Scientific Landfill;

The complete facility infrastructure development, along with design and specifications of all components, shall be included in the DPR prepared by the Concessionaire during the Planning Phase and should be approved by the Independent Engineer (IE) and the Authority. The complete facility infrastructure development should include the following at a minimum (as per the proposal submitted and accepted by the Authority).

For reference purpose only

I. Common Infrastructure:

a. Boundary Wall for The Facilities: The Concessionaire shall construct a Pre-cast boundary wall of chain linked fencing of 800 mm height over 2100 ht mm height brick wall along the perimeter of the Integrated Processing & Disposal Facility and Facilities.

b. Green Belt: The Concessionaire shall provide a vegetative cover in a strip of minimum width 3 m all along the boundary wall at Integrated Processing & Disposal Facility and Facilities. as per MSW rules and statutory norms

c. Access Roads and Internal Roads: The Concessionaire **shall construct the quality black top, motorable access roads of approximately 300m length and 7-meter width** to the Integrated Processing & Disposal Facility and of 5. Approach road will ask **Bengaluru Solid Waste Management Limited (BSWML)** to provide up to the Integrated Solid Waste Processing & Disposal Facility and Internal roads will be under developed scope with 5.5 wide roads width within the Site, of required length, as per the IRC codes. The internal roads at Facilities shall also conform to the same norms.

d. Weigh Bridge: The Concessionaire shall provide one weigh bridge at the entrance of the Integrated Solid Waste Processing & Disposal Facility and another for weighing of waste being disposed in the Sanitary landfill site, of rated capacity of at least 50 MT capacity - 2 non metric ton each in the Integrated Solid Waste Processing & Disposal Facility, and shall meet the minimum technical specifications set out in Schedule 4. One weighbridge shall be provided at the Facilities in ……

e. Administration Building: The Concessionaire shall construct an Administration building consisting of office space for managers and other office staff in accordance with Good Industry Practice at Integrated Solid Waste Processing & Disposal Facility. It shall also have the basic amenities for workers and visitors including washroom, kitchen, and change room. The area of the administration building has to be appropriate for the purpose foreseen. All of the facilities and spaces in the building shall be suitably equipped with appropriate working gadgets, furniture, storages, communication, lighting etc. for its functional use.

f. Laboratory: The Concessionaire shall provide a quality control laboratory at Integrated Solid Waste Processing & Disposal Facility with the equipment adequate to carry out the following tests**:** Integrated Solid Waste analysis and characterization Leachate quality as per Schedule IV of SWM Rules. Compost/RDF/Biogas quality as per Schedule IV of SWM Rules Air quality as per Schedule IV of SWM Rules. Maturity Test for the Residual Inert Matter.

g. Water Supply Arrangements: The Concessionaire with the assistance of Authority shall arrange for a water supply system adequate to meet the requirements for Processing of ISW, drinking and washing purposes in accordance with Good Industry Practice. The Concessionaire shall bear the complete cost of the necessary infrastructure to be created within Integrated Solid Waste Processing & Disposal Facility periphery to the locations of intended use.

h. Power Supply Arrangements: The Concessionaire with the assistance of Authority shall arrange for a power supply system adequate to meet the electricity requirements for the facility including the requirements of the admin block, lab, street light, lab, and vehicle washing area, operations of all plant & machinery of the facility, in accordance with Good Industry Practice. The Concessionaire shall bear the complete cost of the necessary infrastructure to be created from the Integrated Solid Waste Processing & Disposal Facility periphery to the locations of intended use.

The Concessionaire shall further provide power back-up to ensure operation of at least the weighbridge, lighting of work area, leachate treatment plant and circulation system and Water supply system.

i. Lighting: The Concessionaire shall provide, in the integrated Solid Waste processing & disposal facility area & all the Facilities: Adequate lighting system to achieve a minimum lux level of 20 for the

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working area; Street lighting with permanent street light posts for main internal roads and access roads; Movable heavy-duty focus lamps depending on the operational requirement.

j. Other Electrical Works: The Concessionaire shall provide all electrical equipment and implement all electrical works in the Waste Processing Facilities in accordance with Good Industry Practices. Quality of final products depending upon the ISW treatment technology proposed.

k. Storm Water Drainage System: The Concessionaire shall design and implement the storm water drainage system within the Waste Processing Facilities in such a manner as to ensure that:

- It is independent from the Leachate System;
- The run-off rain water from the hinterland does not enter the Integrated Solid Waste storage and processing area;
- There is no stagnation of rain water in the Site;
- Storm Water from surrounding high lying areas does not enter in to the site premises.

l. Leachate Management System: Concessionaire shall construct a leachate management system including leachate collection network and a storage tank in the Integrated Solid Waste Processing & Disposal Facility, if required. The system should be designed in a manner so that there is a possibility of leachate recirculation to the maximum possible extent. For the remaining leachate, a suitably designed treatment unit should be provided before its final disposal for green belt development and excess water will discharged into nearest water body or drains, ensuring that the quality of water in the nearest water body as well as the groundwater is not deteriorated further to that determined in the baseline testing. The overall design of the leachate system shall be such as to ensure that there is no percolation of the leachate into the ground and raw leachate does not come into contact with any water body without treatment.

m. Fire and Safety Equipment: All facilities would be provided with adequate arrangements for fire and safety equipment.

n. Waste Tipping and Segregation Area: For the receipt, inspection and segregation of ISW, the Concessionaire shall provide a separate area in Integrated Solid Waste Processing & Disposal Facility.

o. Waste Recovery & Segregation Facility: The Concessionaire shall build a material recovery facility to facilitate segregation of ISW for recovery of the recyclables at Integrated Solid Waste Processing & Disposal Facility. The segregation system could be both manual and mechanical, and may comprise of conveyors, star screens / Ballistics Separators / Trommel Screens and Magnetic Separators, etc.

p. Signage: All signage and signaling will be unambiguous and ensure safe traffic conditions within the Integrated solid waste Processing & Disposal Facility and Facilities. The Concessionaire will be responsible for the procurement and installation of any additional Solid Waste permanent or temporary signage required for the safe and effective operation of the Integrated Processing & Disposal Facility before commencement of his operations. Such signage will ensure that the O&M Team, the Authority and visitors are adequately advised in relation to: Traffic management; Parking, Health and safety issues; Operational procedures; Operational activities; Identification of principal elements of infrastructure; and Speed limits. All signs shall satisfy the requirements of the Applicable Laws.

q. Waste to Energy Processing Unit.

The Concessionaire is free to choose any technology/technologies and operational methodology for management of ISW in compliance with SWM Rules, 2016 and also meeting the norms of emissions and design requirements of the project. Further, the technology adopted for integrated solid waste processing shall be a proven & feasible technology for the waste of project area and shall be in accordance with the waste characteristics determined and analyzed based on the physical and chemical studies to be conducted by Concessionaire during the DPR preparation in the Planning Phase. The organic content of the waste has to be treated using appropriate biological processes or any other processes which meets the SWM Rules, 2016, including any statutory Amendments / modifications thereto for re-enactments thereof, for the time

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being in force.

The facility for the Integrated Solid Waste processing is to be designed in a manner so that it is able to take variable input up to more than 10% of the designed handling capacity. Also, the Concessionaire should design a robust system that would be operational for 365 days in a year with no breakdown of more than three days. The technology process & its end products shall be in accordance with the accepted relevant standards/rules/regulation of Govt. of India and Govt. of Karnataka including but not limited to standards for air, water, leachate treatment, compost etc.

r. Scientific Landfill

The rejects/inert generated during the processing operations need to be disposed of in a scientific manner in the landfills using liners and covers to minimize exposure of the landfill contents to the environment. Design parameters for landfill the landfill construction shall be undertaken as per the design and plan as included in the DPR prepared by the Concessionaire during the Planning Phase, and as approved by the Independent Engineer. The Concessionaire shall develop the landfill for disposal of Residual Inert Matter and Other Inerts, amounting to not more than 25% of the received ISW quantity (by weight) at Integrated Solid Waste Processing & Disposal Facility, with a minimum project life of 30 years i.e. the COD Integrated Solid Waste Processing & Disposal Facility. The design of the landfill, including its layout, depth, height, side-slopes etc. shall be based on the results of geotechnical investigations and topographical surveys carried out during the Planning Phase by the Concessionaire. Further, the construction of the landfill has to be done completely in a single phase at the initiation of the project. The average quantity of MSW inert/rejects to be landfilled shall be estimated depending upon the input quantity of waste coming to the facility per day for the current as well as projected population of the Project Area.

s. Infrastructure for the Interim Phase: -

Further, the Concessionaire shall fence the area within the Integrated Solid Waste Processing & Disposal Facility for collecting the waste during the Interim Phase and handling it by providing a temporary arrangement, as identified by the Concessionaire in the DPR prepared during the Planning Phase. The waste collected during the Interim Phase shall comprise of; Total accumulated waste at various places in the project area which has to be assessed by the bidder dumped in the participating AUTHORITY's.

The amount of waste in each of the above categories has to be further assessed in the DPR prepared by the Concessionaire during the Planning Phase. This waste shall be disposed of in the scientifically designed landfill, hereby referred to as Landfill for Interim Phase, and closed, in accordance with.

SWM Rules 2016, A portion of the fenced area should be used for the receiving and temporarily storing the above mentioned waste till the Landfill for Interim Phase is ready. The technical requirements for this small landfill - Landfill for Interim Phase, should meet the technical requirements for the landfill facility mentioned in **Section 2 of Schedule 2.**

3. Overall Construction Requirements

a. Survey: -

The Concessionaire shall undertake a detailed topographic survey of the site at 5m grids (such levels being designated as "Natural Ground Level"). The Concessionaire to make boreholes or to carry out exploratory excavation for the Project design. The Concessionaire should submit the results of the surveys as a part of the DPR prepared by the Concessionaire during the Planning Phase.

b. Civil Works: -

The requirements of civil works for the waste processing facility shall be in accordance with the results of the field investigations. The engineering design and structural details of entire civil works of the processing facility including cover shed, tipping platform, foundation of the machinery & equipment, storage godown etc. shall be based on the geo-technical investigation, soil investigation tests & Contour mapping of the site, and shall be included in the DPR prepared by the Concessionaire during the Planning Phase. All design,

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works and operations shall be in accordance to a "General Quality Standard" that means a standard of performance which, is competent, efficient, economical and in accordance with internationally accepted techniques used in the waste disposal industry; is in accordance with professional engineering, accounting and consulting standards, as applicable, recognized by international professional bodies; is in accordance with sound management, commercial, technical, design and engineering practices; employs appropriate technology and safe, effective equipment, machinery and methods; protects the interests of the Authorities; is in accordance with the Municipal Solid Waste (Management and Handling) Rules, 2000/ 2016.

c. Codes and Standards: -

The following standards shall be adopted:

- All applicable rules, regulations, acts, guidelines, standards and laws of Government of India and the State Government
- All applicable Indian Standards (IS)
- All applicable standards by the Bureau of Indian Standard(BIS) 9.1.2.4. All norms of the Indian Road Congress (IRC)
- All norms of the National Building Code (NBC)
- SWMRules,2016
- Environment (Protection)Act,1986
- Environment (Protection)Rules,1986
- EIANotification,2006 and amendments
- Guidelines and recommendation of Central Public Health & Environmental Engineering Organisation (CPHEEO), MoUD, GoI
- Electricity Rules,2005
- Electricity Act, 2003
- Guidelines of the State Electricity Regulatory Commission 9.1.2.14. All applicable norms of the Central Electricity Authority(CEA)
- All applicable rules, regulations, acts, guidelines, standards of Central Pollution Control Board (CPCB) and State Pollution

4. Procedure:

A. Before Commencement of Construction

I. Prior to commencement of any construction activity, the Concessionaire shall finalize an implementation plan for the DIP ("Detailed Investment Plan – project implementation and operation and management plan) as part of the DPR to be prepared during the Planning Phase. The DIP shall, inter alia, include:

i. A detailed schedule of implementation for putting up and operationalizing the Project Facilities, which shall cover all stages/ aspects of implementation including design and engineering, procurement of materials and equipment, installation, construction and testing.
ii. Manpower deployment plan, including the designation of key personnel for the management and supervision of all Project-related activities.
iii. A broad method statement for key items (including earth works, concrete works, structural concrete work, and road works) setting out the methodology of construction, materials and construction equipment mobilization/ utilization plans.
iv. Quality assurance plan.
v. An operations and maintenance plan for the Project Facilities during the O&M Period (O&M Plan) and which shall, inter alia, include an Environmental Management Plan.
vi. Format of the Monthly Project Progress Report giving details of the physical progress in implementation of the Project Facilities and operations and maintenance activities undertaken ("Monthly Project Progress Report").

II. Prior to commencement of construction of any of the Project Facilities, the Concessionaire shall have:

i. Obtained all such Applicable Permits as are necessary to commence construction of such Project Facilities;

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ii. Finalized such Drawings as are necessary and the Implementation Schedule with approval of the Independent Engineer;

iii. Mobilized the requisite resources, personnel and organization necessary for the same and designated and appointed suitable officers/representatives as it may deem appropriate with responsibility to supervise implementation of the Project and for exchange of information with the Independent Engineer and Authority;

iv. Finalized in consultation with the Independent Engineer a method statement setting out details of the actual methods that would be adopted by the Concessionaire for the construction of such Project Facilities including details of equipment and machinery that would be used, their locations, and arrangements for conveying and handling materials;

B. During Construction

The Concessionaire shall:

i. Ensure that the construction of the Project Facilities is undertaken with minimal inconvenience to the traffic using the existing access road to the Sites.

ii. Take precautions to avoid inconvenience to, damage to, destruction of or disturbance to any third-party rights and properties.

iii. Ensure adequate safety of the personnel deployed at the Sites which would include measures such as the provision and maintenance of barricades, and illumination during night in consultation with the IE.

iv. Be in compliance with the Applicable Laws and Applicable Permits obtained for the Project including the clearances obtained by SMC.

v. Adhere to the DPR during the Implementation Period.

C. Positions and Levels

The Concessionaire shall be responsible for:

a) The accurate setting-out survey control points, lines and levels of reference,

b) The correctness of the positions, levels, dimensions and alignment of all

D. Tests

I. Various tests ("Tests") would be undertaken for the Project as per the standards prescribed under SWM Rules and Bureau of Indian Standards. Where no testing methods are specified by the said standards, details of the Tests to be carried out and specifications to be achieved for the respective Project Facilities / Construction Works or part thereof shall be agreed upon with the IE prior to commencement of construction.

II. Where material properties vary from or comply only marginally with the specifications contained in the Construction Requirements, the IE shall increase the frequency of Testing as appropriate at the cost of the Concessionaire.

III. The Tests would be carried out at a location (place of manufacture, fabrication or preparation, at site or any specialized testing laboratory) that the IE may reasonably require, at the cost and expense of the Concessionaire.

IV. The Concessionaire shall provide such assistance, labour, electricity, fuels, stores, apparatus and instruments as are normally required for examining, measuring and testing any materials or plant and shall supply samples of materials, as required by the Independent Engineer to undertake Tests.

V. No part of the construction works shall be covered up or put out of view before the same has been examined by the IE. Substitution/ replacement of such improper material, equipment, machinery or plant.

VI. The Concessionaire shall mobilize quality equipment, plants and machinery to ensure adherence to the DPR.

VII. Concessionaire shall arrange for all the material requirements for the Project and disposal of all material wastes. The Applicable Permits in this regard would have to be obtained by the Concessionaire. All operations shall be carried out by the Concessionaire with minimum degradation of the environment. All

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excessive and unsuitable excavated materials shall be stacked at appropriate dumping places or otherwise disposed of by the Concessionaire in consultation with the IE.

E. After Completion of Construction

Upon completion of construction but prior to issue of the Completion Certificate, the Sites shall be cleared of all construction equipment, surplus materials, debris and temporary installations and shall be left in tidy and clean manner and to the satisfaction of the IE, who shall further make recommendations to the Authority for approval.

SECTION 2: TECHNICAL SPECIFICATIONS: -

Landfill Components: -

1. The landfill site shall have the specifications as discussed in the following sub section.

i. Bottom Liner:

A composite bottom liner system consisting of drainage layer, HDPE layer and compacted clay shall be provided as per CPCB/SPCB Guidelines & SWM Rules, 2016.

- A 90cm thick compacted clay or amended soil (amended with bentonite) as per IS: 6186-1986 Specification to reach the permeability not greater than $1X10^{-7}$ cm/sec.
- A Minimum 1.5 mm thick Grade I smooth HDPE liner as per IS: 10889-1984 Specification for High Density Polyethylene Films
- A drainage layer of 300 mm thick granular material of permeability not greater than 10^{-2} cm/sec.

Alternatively, Concessionaire may use Geo-Synthetic Clay Layer (GCL) in place of compacted clay, to avoid utilization of valuable clay, with approval from the Independent Engineer. Also the Concessionaire may use Geo-composite Drainage Layer in place of 300 mm thick granular material, with approval from Independent Engineer.

ii. Intermediate Liner System: -

The Concessionaire shall, in accordance with the O&M Requirements, provide an Intermediate Liner, which shall consist of a 600 mm thick soil.

iii. Protected Layer/Amended Soil (in bottom liner and top cover): -

A layer of amended soil shall be part of the impervious layer and shall be located below the HDPE layer. Amended soil shall be prepared from soil available within the premises, however if soil availability do not satisfy the requisite quantity, it may be imported from nearby area by means of transport or the available soil may be mixed with medium to high plasticity imported clay, or commercial clays such as bentonite, to achieve the required low hydraulic conductivity. Soil- bentonite admixtures are commonly used as low permeability amended soil.

Soil with the following specifications would prove to be suitable for liner construction:

a. Percentage Fines – between 40 and 50% (IS : 2720 Part IV)
b. Placidity Index – between 10 and 30% (IS 2720 – part V)
c. Liquid Limit – 25 to 30% (IS 2720 – part
d. Clay content – 18 to 25%

The sequence of laying the amended soil over the waste layer shall be as following:

a. Excavate waste if necessary and then level and compact the waste layer.
b. Spread Clay in thin layers of specified thickness (loose) Spread Bentonite powder if necessary.

c. Mix Bentonite powder with tractor mounted plough and dish arrangement by repeated movement of tractor.

The amended soil layer shall meet the following criteria:

a. Hydraulic conductivity of $k<10^{-7}$ cm/sec or Specified thickness.
b. Absence of shrinkage cracks due to desiccation.
c. Absence of clods in the compacted clay layer.
d. Adequate strength for stability of liner under compressive loads as well as alongside slopes Minimal influence of leachate/waste on hydraulic conductivity.

Testing:

Compaction Test (standard proctor, and modified proctor or equivalent) for host material as well as imported soil as per IS: 2720, and Permeability Test of compacted soil after saturation (for host material as well as imported soil) as per ASTM: D 5084 or Olson and Daniel (1979).

The compact amended soil layer shall be subjected to following characteristics of the sample:

a. Mechanical Analysis or grain size analysis as per IS: 2720 Part IV
b. Liquid Limit as per IS: 2720 Part V
c. Plasticity Limit as per IS: 2720 Part V.
d. Moisture Density Relationship as per IS : 2720
e. Permeability Test as per IS: 2720.

iv. Drainage layer: -

- The drainage layer shall be made up of granular soil of permeability coefficient (k) greater than 10^{-2} cm/sec. The size of material to be used shall be 25 mm and fraction content of material size less than 25 mm should not be more than 5%. Clean coarse sand is the preferred material for this layer; however, gravel may also be used.

Testing:

The quality control test for drainage layer shall include test for grain size and permeability by following test method:

Parameter	**Test Method**
● Grain Size	IS 2720 (Part 4)
● Permeability	IS 2720 (Part 17)

The test results shall meet the material specifications to be used in the drainage layer.

Geo Composite Drainage Layer:

The drainage layer shall consist of drainage composite of specified thickness for drainage purpose. The geo-composite shall basically be a drainage net made from polyethylene material in which the geonet shall be sandwiched between geo-textile. The geo- composite shall comply with the following minimum specifications and must be laid after approval from the Independent Engineer.

Sl. No.	**Specifications**	**Test Method**	**Unit**	**Accepted Value**
1	Material			PE
2	Filter Separator			Non-Woven

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3	Physical Property of Composite (General)			Thermally bounded geotextile on each side of the core.
4	Mass Per Unit Area	EN ISO 9864	g/m^2	650
5	Thickness	EN ISO 9863 – I	mm	5
6	Roll Width		M	3
7	Roll Length		M	50
8	Filter Overlap (one side)		mm	100

Landfill Gas Management System:

The Concessionaire shall provide a suitable landfill gas management system, approved by the IE. The system shall be designed according to the landfill gas generation estimate from the landfill, whether active or passive, as per the CPCB guidelines & SWM Rules, 2016.

v. Daily Soil Cover and Final Cover: -

The Concessionaire shall, in accordance with the O&M Requirements, at its own cost and expense provide the Daily Soil Cover which shall consist of a 150 mm thick.

The Concessionaire shall, in accordance with the O&M Requirements, provide the Final Cover which shall be in accordance with the CPCB guidelines & SWM Rules, 2016, depending upon the proposed landfill gas management system, whether active or passive system.

Soil Requirement:

The top layer of the landfill shall be made up from top soil of specified thickness. The soil for this layer shall be transported from approved borrow pits suitable for growing vegetation and developing landscaping. The topsoil shall consist of natural, friable soil that shall be fertile soils capable of producing heavy growth of plants. The plant to be planted on the topsoil shall have fibrous root system like grass, marigold, lilies, daffodils, tulip, cannas lily etc. The top soil transported to the project site shall be reasonably free from underlying subsoil, clay lumps, objectionable weeds, litter, matted roots, toxic substances or any material that might be harmful to vegetative growth or be a hindrance to grading, planting, or maintenance operations. Top soil shall also meet the following specifications:

Parameter	**Test Frequency**	**Accepted value**
Max. Particle size (mm)	Per 1,500m^3	25
pH	Per 1,500m^3	5-7
Organic Content (%)	Per 4,000m^3	5-20

Testing of Topsoil:
Testing of topsoil shall be performed on representative samples of each principal type or combination of topsoil material. At least one set of tests shall be performed on each borrow source proposed. A minimum of 2 kg of top soil from each proposed borrow source shall be sent to the designated laboratory. Testing shall consist of the

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determination of maximum particle size in accordance with ASTM D 422, pH in accordance with ASTM D 4972 and organic content in accordance with ASTM D 2974. No topsoil shall be placed until the borrow source assessment report is approved. The report shall include the location of each source, estimated quantity of borrow available, logs of subsurface exploration and laboratory test results.

Topsoil Placement:
Top soil shall not be placed when the base is excessively wet, extremely dry, or in a condition otherwise detrimental to proper grading. Topsoil shall be placed in one lift and shall be evenly spread to a final compacted thickness of desired thickness. Topsoil shall be traffic compacted or as specified by IE using approved placement equipment. On slopes, topsoil shall be placed from bottom of the slope upward.

Protection and Stockpiling of TopSoil:
Erosion rills or other damage that occurs during construction shall be repaired and grades re- established. Repairs to the select topsoil layer shall be documented including location and volume of soil layer affected, corrective action taken, and results of retests. Storage or stockpiling of material on the completed surface of the topsoil layers shall not be permitted.

2. The HDPE Liner used in different layers should have the following technical specifications.

i. Smooth HDPE Liner (In bottom liner and top cover): -
The lining material shall be of highest quality high-density polyethylene (HDPE) sheeting, manufactured in using virgin high-density polyethylene resin entirely free of plasticisers or other filler materials.

Only 10% of the resin may be from edge cut-offs. The HDPE sheet shall be manufactured through Flat Cast extrusion technology and shall have minimum length of 150 m and minimum width of 7 m per roll to reduce the no of welding/seaming points. The liner material shall be supplied with a 125mm-film sheet along the roll longitudinal edges in order to keep this zone clean and to stop oxidation.

This film shall be removed immediately before welding. The overlapping and welding area shall be marked with a white line to assure an optimum welding. The welding area on the outside edge of the liner shall be smooth. The thickness of the HDPE Geo-membrane shall not vary across the roll by more than 5%.

Properties of Smooth Geomembrane:

Description		**Test Method**	**Unit**	**Minimum Value**	**Frequency of Test**
Thickness Nominal		ASTM D 5199	Mm	1.50 (should not vary across the roll by more than 5%)	Every Roll
Density		ASTM D 1505	gm/cc	0.94	Every 5th role
Melt Flow Index (recommended in GRI Standards)		ASTMD 1238 (190 – 2.16 kg) 0 C	Gm/10 min	≤ 1.0	
Tensile Strength at Yield (recommended as per GRI standards)		ASTM D 6693	kN/m	24	Every 5th roll
Tensile Strength at break		ASTM D 6693	N/mm	42	Every 5th roll
Elongation at Yield		ASTM D 6693	%	15	Every 5th roll

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Elongation at Break		ASTM D 6693	%	≥700	Every 5th roll
Tear Resistance		ASTM D 1004	N	200	Every 5th roll
Puncture Resistance		ASTM D 4833	N	480	Every 5th roll
Low temp Brittleness (optional)		UNE EN-495	-	No Cracks (optional criteria)	
Carbon Black Content		ASTM D 1603	%	2 - 3 %	Every 5th roll
Carbon Black Dispersion		ASTM D 5596		Cat 1-2	Every 5th roll
Cold Belding at –20 °C (optional)		ASTM D 2136	-	Passed (optional criteria)	Every 5th role
NCTL		ASTM D 5397	Hrs.	>300	
Environmental Stress Crack Resistance – (ESRC Test.)		DIN 16726	Hrs.	NR	Every 5th role

The immediate surface to be lined so that it is free of irregularities, protrusion, vegetation, excessive water, loose soil or abrupt changes in grade. The supporting surfaces do not necessarily contain stones or other matter of such composition shape or size which may be damaging to the HPDE and there are no excessively soft surface areas.

ii. Installation of HDPE: -

Deployment equipment shall be such that it does not damage the subgrade; personnel who are in contact with the liner shall be strictly prohibited from smoking, wearing damaging shoes, or engaging in other activities that damages the liner.

A low ground pressure, rubber tired all-terrain vehicle will be used on the HDPE surface, proper care will be taken to avoid damage and excessive traffic.

Field panel replacement installation sequence would be taken into account site drainage, wind direction, sub-grade surface and access to the site and production schedule of the project. HDPE panel deployment will not proceed when adverse weather conditions exist which may jeopardize the integrity of the liner installations. Field Panel would be seemed as soon as possible after deployment and all deployed materials will be marked with proper identification.

a. Visual inspection: -

The designated IE shall visually inspect each panel as soon as possible after deployment for damage or areas needed repair. Areas shall be marked for repair wherever necessary.

b. Anchoring: -

Anchoring trenches shall be prepared by the Earth work by concessionaire as per the drawing, lines width and dimension. The task will be deployed prior to HDPE deployment. Edges where the HDPE enters the trench shall be free from irregularities, protrusions etc. for avoiding damages.

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Back filling will occur when the HDPE material is at its most contracted state to avoid potential bridging. Problems utmost care would be taken to avoid damaging the HDPE during the backfilling.

Procedures specified by the manufacturer would be followed for seaming of HDPE liners. Every HDPE seam should be tested over 100% of its length, any time a seaming operation begins, a sample would be cut for testing, a sample also would be taken any time a seaming operation is significantly modified.

c. Trial Seams (Trial Welds): -

Prior to production seaming, trial seams shall be made and only then accepted using project specific criteria. Trial seams shall be made on appropriate sized pieces of identical or equivalent HDPE material to verify that seaming conditions and procedures are adequate. Each trial seam sample shall be assigned a number and the test results recorded in appropriate log.

Trial seams will be performed for each welder to be used and by each operator of the extrusion welder, and by the primary operator for each fusion welder. A Passing trial seam shall be made prior to the beginning of each streaming period.

Fusion welding trial seam samples would be done approximately 6 feet long by one-foot-wide with the seam centered lengthwise. For extrusion welders the trial seam sample size shall be approximately 4 feet long by 1-foot-wide with the seam centered lengthwise.

Four specimens, each one-inch-wide with six-inch-long shall be cut from the trial seam using a coupon cutter. Two of the specimens shall be tested for shear and two of the specimens to be tested for peel on a field tensiometer. When testing a fusion-welded seam, both inside and outside seams shall be tested. All shear and peel test specimens will meet or exceed the project requirements.

d. Panel Seams (Production Seaming) :

Upon acceptance of the trial seams, work will be begun on deployed panes. All seams shall be non-destructively and destructively tested. Each completed seam shall be labelled with pertinent information.

e. Non-Destructive seam testing: -

The purpose of the Non-Destructive test is to demonstrate leak resistance of the seam.
Non - destructive testing shall be conducted either by Air Pressure Test or Vacuumed Test. All nondestructive tests shall be in consultation with the Independent Engineer.

f. **Vacuum Testing: -**

The equipment for vacuum testing consists of a vacuum box assembly with a vacuum gauge, a pumping device and a soap solution. Vacuum testing shall be carried out in the following method; Section of seam made wet with soap solution. The seam section must be longer than the vacuum box. Place the vacuum box over the wetted area and apply body weight to form a seal between the gasket and the liner.
Evacuate air to create a negative pressure of 5 psi. Observe the seam through the viewing window for the presence of soap bubbles emitting from the seam. If no bubbles are observed, reposition the box on the next wetted area for testing with a slight overlap. If bubbles are detected which indicates a peak in the seam, mark the area of leak for repair and retest.

g. Air Pressure Testing: -

Air pressure testing shall be accomplished with a double seam testing apparatus. Equipment for the testing shall include - an Air Pump, or air tank, capable of producing a minimum air pressure of 30 Psig in seam channel, a Sharp hollow needle to insert air into the air channel of the seam, a hot air gun or other heating device to seal the ends of the air channel.

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Following Procedure to be followed to conduct the test: Seal both sides of the air Chamber. Insert the needle into the air chamber at either end of the steam to be tested. Pressurize the air channel to a minimum of 30 psig. Allow the pressure to stabilize and if necessary, re- pressurize to 30 psig and note the pressure. With a minimum pressure of 30 psig stabilized in the air channel, the time of the day shall be noted. After approximately 5 min. The air pressure should be read again. In case a difference between the two readings are more than 4 psig the seam needs to be retested.

Upon completion of the test and recording all information required, open the opposite end of the seam from the needle. Escaping air will confirm that the entire length of the seam was pressurized and therefore tested. If the air does not escape, the channel is blocked. The blockage is then located and tested redone from the point. Upon completion of the air pressure test, the seam will be marked and points requiring repair identified.

In case the Air Pressure Test Fails, following procedures shall be followed: Reposition the apparatus and reset the same section. While the seam air channel is under pressure, traverse the length of the seam and listen to the leak. While the seam air channel is under pressure, apply a soapy solution – observe for bubbles formed by escaping air. Re-test the seam in progressively smaller increments, until the area of leakage is identified. Repair identified leakage area by extrusion welding the excess material at the edge of the seam and then vacuum test. In areas where the air channel is closed and the integrity of the weld is not suspect, vacuum testing is acceptable.

h. Destructive Seaming Testing: -

Destructive seaming tests shall be performed at selected locations. The purpose is to evaluate bonded seam strength. Seam Strength testing shall be performed as work progresses. The frequency of sample removal is commonly no more than one sample per 500 liner feet of the seam. A sample segment twelve inches by twelve inches shall be cut with the seam centered lengthwise. Additional segments may be cut for independent lab testing, archival retain or other uses.

i. Testing: -

Sample shall be tested in peel and in shear using the followed methods:

- Ten Specimens of 1 inch width shall be cut with a coupon cutter from the segments with a machine press and die.
- Five specimens shall be tested for peel. Fusion welds shall be tested from both sides.
- Five specimens shall be tested for shear.

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SCHEDULE 22 – O&M PERFORMANCE SECURITY

Performance Security for Operation and Maintenance Requirement

[This format is subject to change as per the discretion of the Authority]

The Commissioner, AUTHORITY, WHEREAS:

1 (the—**Concessionaire**‖)and the—**the AUTHORITY**‖) have entered into a Concession Agreement dated …….. (the —**Agreement**‖)where by The AUTHORITY has agreed to the Concessionaire undertaking Integrated Solid Waste Management at *[Place]*on design, build, finance, operate and transfer(—**DBFOT**‖) basis, subject to and in accordance with the provisions of the Agreement.

2 The Agreement requires the Concessionaire to furnish an Operation Performance Security to the AUTHORITY, the cumulative amount of which is INR ……..(the—**Guarantee Amount**‖) as security for due and faithful performance of its obligations, under and in accordance with the Agreement, during the Operation Period (as defined in the Agreement).

3 We,……..through our Branch at.....(the—**Bank**‖) have agreed to furnish this Bank Guarantees by way of Operation Performance Security.

NOW, THEREFORE, the Bank here by, unconditionally and irrevocably, guarantees and affirms as follows:

1. The Bank hereby unconditionally and irrevocably guarantees the due and faithful performance of the Concessionaire‘s obligations during the Operation Period, under and in accordance with the Agreement, and agrees and undertakes to pay to the AUTHORITY, upon its mere first written demand, and without any demur, reservation, recourse, contest or protest, and without any reference to the Concessionaire, such sum or sums up to an aggregate sum of the Guarantee Amount as the AUTHORITY shall claim, without the AUTHORITY being required to prove or to show grounds or reasons for its demand and/or for the sum specified therein.

2. A letter from the AUTHORITY, under the hand of the Municipal Commissioner, the AUTHORITY that the Concessionaire has committed default in the due and faithful performance of all or any of its obligations under and in accordance with the Agreement shall be conclusive, final and binding on the Bank. The Bank further agrees that the AUTHORITY shall be the sole judge as to whether the Concessionaire is in default in due and faithful performance of its obligations during the Construction Period under the Agreement and its decision that the Concessionaire is in default shall be final, and binding on the Bank, notwithstanding any differences between the AUTHORITY and the Concessionaire, or any dispute between them pending before any court, tribunal, arbitrators or any other AUTHORITY or body, or by the discharge of the Concessionaire for any reason whatsoever.

3. In order to give effect to this Guarantee, the AUTHORITY shall been titled to act as if the Bank were the principal debtor and any change in the constitution of the Concessionaire and/or the Bank, whether by their absorption with any other body or corporation or otherwise, shall not in any way or manner affect the liability or obligation of the Bank under this Guarantee.

4. It shall not be necessary, and the Bank hereby waives any necessity, for the AUTHORITY to proceed against the Concessionaire before presenting to the Bank its demand under this Guarantee.

5. The AUTHORITY shall have the liberty, without affecting in any manner the liability of the Bank

For reference purpose only

under this Guarantee, to vary at any time, the terms and conditions of the Agreement or to extend the time or period for the compliance with, fulfilment and/ or performance of all or any of the obligations of the Concessionaire contained in the Agreement or to postpone for any time, and from time to time, any of the rights and powers exercisable by the AUTHORITY against the Concessionaire, and either to enforce or for bear from enforcing any of the terms and conditions contained in the Agreement and/or the securities available to the AUTHORITY, and the Bank shall not be released from its liability and obligation under these presents by any exercise by the AUTHORITY of the liberty with reference to the matters aforesaid or by reason of time being given to the Concessionaire or any other forbearance, indulgence, act or omission on the part of the AUTHORITY or of any other matter or thing whatsoever which under any law relating to sureties and guarantors would but for this provision have the effect of releasing the Bank from its liability and obligation under this Guarantee and the Bank hereby waives all of its rights under any such law.

6. This Guarantee is in addition to and not in substitution of any other guarantee or security now or which may hereafter be held by the AUTHORITY in respect of or relating to the Agreement or for the fulfilment, compliance and/or performance of all or any of the obligations of the Concessionaire under the Agreement.

7. Not withstanding anything contained herein before, the liability of the Bank under this Guarantee is restricted to the Guarantee Amount and this Guarantee will remain in force in compliance of the conditions specified in Paragraph 8 below and unless a demand or claim in writing is made by the AUTHORITY on the Bank under this Guarantee, no later than 6 (six) months from the date of expiry of this Guarantee, all rights of the AUTHORITY under this Guarantee shall be forfeited and the Bank shall be relieved from its liabilities hereunder.

8. The Operation Performance Security will be valid from the Scheduled COD till one year after the expiry of the Concession Period and Post-closure Period of the Sanitary Landfill.

9. The Bank undertakes not to revoke this Guarantee during its currency, except with the previous express consent of the AUTHORITY in writing, and declares and warrants that it has the power to issue this Guarantee and the undersigned has full powers to do so on behalf of the Bank.

10. Any notice by way of request, demand or otherwise hereunder may be sent by post addressed to the Bank at its above referred Branch, which shall be deemed to have been duly authorised to receive such notice and to effect payment thereof forthwith, and if sent by post it shall be deemed to have been given at the time when It ought to have been delivered in due course of post and in proving such notice, when given by post, it shall be sufficient to prove that the envelope containing the notice was posted and a certificate signed by an officer of the AUTHORITY that the envelope was so posted shall be conclusive.

11. This Guarantee shall remain in force till the period mentioned in Paragraph above.

Signed and sealed this…….days of……..,20……at……..

For reference purpose only

SIGNED, SEALED AND DELIVERED

For and on behalf of the Bank by

(Signature)

(Name)(Designation)

(Code Number)

(Address)

NOTES:

i. The bank guarantee should contain the name, designation and code number of the officer(s) signing the guarantee

ii. The address, telephone number and other details of the Head Office of the Bank as well as of issuing Branch should be mentioned on the covering letter of issuing Branch.

O&M Scope & Requirements: -

The Concessionaire will prepare and maintain up-to-date a copy of the Operations and Maintenance Manual (O&M Manual) – Standard Operating Procedure (SOP) covering all aspects of provisioning O&M of movable and immovable infrastructure associated with this Project as per the SWM Rule 2016. This O&M Manual should be specified as a part of the DPR to be prepared by the Concessionaire during the Planning Phase.

The Concessionaire will be responsible for the operation and maintenance of Integrated Solid Waste Processing & Disposal Facility, including equipment and vehicles as well as the infrastructure.

Operations & Maintenance Manual and Plans

The Concessionaire shall finalise the O&M Plan and the O&M Manual for the Project in the manner as set out below:

Prior to making application for the Readiness Certificate for the Project the Concessionaire shall finalise in consultation with the Independent Engineer:

a) The O&M Manual (including the formats for the reports to be submitted during the Operations Period and the Post Closure Period)

b) The O&M Plan for the first five years of operations and shall be modified for subsequent years

c) If applicable, the month-on-month maintenance schedule for each module of Waste to Energy plants for the first five years of the Concession Period.

Six weeks prior to the anniversary of COD each year, the Concessionaire shall submit to the Independent Engineer and The AUTHORITY an annual O&M Plan for the next year of operations.

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General Requirements

Installation of Closed-Circuit Television Cameras

The Concessionaire shall install a closed-circuit television camera at Processing Facility Input and Output Weighbridges to record the vehicles being weighed. The camera shall record clearly the registration details of the vehicle and face of the vehicle driver along with time. At the end of each day, a back-up copy of the closed- circuit television camera recording of the day shall be produced on compact disc(CD).

Weighing of Vehicles at the Processing Facility –All incoming and outgoing vehicles to the Processing Facility shall be weighed, inspected and cleaned regularly.

Maintenance of Structures

(a) The CC, RCC, Masonry, Steel and other structures with the Processing Facility shall be reported to the Independent Engineer and shall be maintained in good conditions.

(b) The CC, RCC, Masonry and other structures shall be checked for cracks and other deformations and shall be attended immediately

(c) Periodic maintenance including plastering, cementing, painting, etc. shall be done for CC, RCC, Masonry and other structures periodically (atleast once in two years)

(d) Periodic maintenance including welding, riveting, painting, etc. shall be done for steel structures periodically (atleast once in two years)

Maintenance of Utilities and Services

The utilities and services like water supply, wastewater collection and treatment, lighting, green belt, etc. within the Processing facility shall be attended immediately for any repairs and shall be maintained in good conditions.

Maintain Hygienic and Aesthetic Conditions

The MRF Processing Facility shall be maintained in hygienic and aesthetic conditions by taking proper measures as suggested by the Independent Engineer.

Hazardous Waste Disposal

[Deleted].

Cleaning and Maintenance Requirements

The Concessionaire shall plan and execute cleaning and maintenance procedures ensuring, that

a) The buildings, structures, seeded and planted areas, paved and un- paved traffic areas etc. are

For reference purpose only

maintained clean and proper without damages that may impede their functionality or appearance.

b) All moving or fixed equipment and machinery are maintained clean and in good working condition.

c) All service facilities, e.g. outdoor sewage system, leachate management system, etc., are inspected regularly, cleaned and maintained.

d) Every day at closing time the internal roads and other paved areas shall be inspected, and any spillage of MSW shall be collected and disposed properly..

Monitoring Procedures

The monitoring at integrated facilities shall be carried out during implementation/ Construction Period, Operation Period and Post Closure Period. The monitoring plan shall be prepared in accordance with the applicable State Pollution control Board requirements and as described in the Background Documents.

Management of Labour and Prevention of Accidents

The Concessionaire shall comply with all the provisions of the laws regarding deployment of labour under the contract; the Abolition of Contract Labour Act, the Minimum Wages Act, The Workmen's Compensation Act and the provisions of the MSW Rules 2016.

It shall be the liability and responsibility of the Concessionaire to implement the provisions of these acts. In addition to;

(a) The Concessionaire shall not employ in connection with the work any person who has not completed 18 years of age.

(b) The Concessionaire shall furnish to the AUTHORITY; information on the various categories of labour employed by him and the facilities given to the employees in the form prescribed for the purpose at such intervals as may be specified in the work specification.

(c) The Concessionaire shall keep all records desired under the said labour laws and submit periodical returns to the respective statutory authorities.

(d) The Concessionaire shall in respect of labour employed by him comply with provisions of the various labour Laws and the Rules and Regulations as applicable to them in regards to matters provided therein and shall indemnify AUTHORITY in respect of all claims that may be raised against AUTHORITY for non-compliance thereof by the Concessionaire.

The Concessionaire shall report and register all occurrences of;

(a) Accidents involving risks for human health and security;

(b) Other incidents connected with occupational health and security; and

(c) Unscheduled interruptions to the planned operations including fires, explosions, break- down of vehicles, break-down of essential machinery & equipment, etc.

The reports shall be forwarded to the AUTHORITY & relevant authorities. The registered

information shall be kept in the "Report Book". The accident and other incident record formats and record keeping procedure shall be approved by the AUTHORITY.

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Facilities and Benefits for the WorkForce Employed

The Concessionaire shall furnish the details of the workforce employed for the work defined in this document – details of the workers including those for supervision before commencing the work.

Each person (including Supervisor) deployed on this work shall be provided the following facilities.

(a) Uniform with ID approved by the AUTHORITY (visible distinctly at night)
(b) Safety and protective gears

Training, Social Programmes and Public Grievances

(a) Fortnightly/Monthly public awareness program details to be provided to the AUTHORITY by the Concessionaire one month prior to such program throughout the Concession Period

(b) The Concessionaire shall provide community and training center within the Project Site wherein multiple employments related capacity building and training activities shall be undertaken and necessary skills shall be imparted.

(c) The Concessionaire shall provide an employment opportunity based on training and skill assessment. The secondary employment and/or business opportunity shall be created through the facility operator or support services.

(d) The Concessionaire shall provide training and awareness to labours at the plant, which should be a continuous activity and maintain the records.

(e) The Concessionaire shall set up MSW management and innovation center for every-one which will be useful to locals, students and others who would wish to work in this field.

(f) The Concessionaire shall give prior importance to the nearby population to get involved in the activities of horticulture, garden maintenance, energy management, etc at the Project Facilities.

(g) The Concessionaire shall involve the NGOs, Govt. organizations, representative of local gram panchayats, Dist. Collector Officers, etc in consultation with the AUTHORITY for training and public awareness programs.

(h) The Concessionaire shall maintain health records of all the artisans and labour staff. The health record formats and record keeping procedure shall be approved by AUTHORITY/concerned medical representatives.

(i) The Concessionaire should create a system to register public grievances and redressal system.

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Operational Plan

(To be submitted by the Concessionaire) The operational plans should include the following key points:

a) Secondary Collection and Transportation
- Transportation of waste from transfer stations to processing facilities as per Scope of Work.
- Machineries/equipment operational plan
- Maintenance of Transfer stations

a) Processing Facility
- Number of processing lines and their operational plan for MRF
- Number of processing lines and their operational plan for processing (Waste to Energy, Waste to BioCNG, etc.) along with planned capacity, efficiency, output, etc.
- Machineries/equipment operational plan
- Routine and break down maintenance plan

b) Environmental Management Plans
- Monitoring plan
- Quick response mechanism
- Maintenance plan for plantation and greenbelt
- Health and safety plan
- Pollution control units and their operational plan

c) Disaster Management Plan

d) Month-on-month maintenance schedule of Waste-to-Energy plants, other processing units, if applicable

Environment Monitoring: -

The Concessionaire will be wholly responsible for proper planning and management of waste generated within the project area. The Concessionaire shall make an annual Operational Plan of various activities/facilities, following the Technical Specifications set out in this document as a part of the O&M Manual. The Operational Plan for various activities/facilities for the Interim Phase and 1st year of operation post COD Integrated Solid Waste Processing & Disposal Facility shall be submitted as a part of the DPR to be made by the Concessionaire during the Planning Phase. The Concessionaire shall further submit the Operational Plan annually, along with periodically (once a quarter) updates, if any, throughout the Concession Period in line with Good Industry Practice and Applicable Laws & Applicable Permits and get it approved by the IE and MC. The Concessionaire shall also submit monthly progress reports to the IE and MC detailing progress in implementing the Annual Operation Plan, problems encountered and remedial actions taken and any deviation from the plan during the period. Further, the Concessionaire shall further, provide an O&M Team of qualified professionals for the operations and maintenance of the mandated activities. The team shall also be responsible for ensuring the maintaining the quality as well as the environmental systems. The O&M Team shall comprise of, but not limited to, a project manager, a civil engineer, an environmental/quality engineer and an account manager.

The Concessionaire shall also devise a schedule, as a part of O&M Manual, of regular maintenance for all plant and equipment to ensure the Facilities continued optimum performance and program the need for any downtime of the Integrated Solid Waste Processing & Disposal Facility such that disruption to the Integrated Solid Waste Processing

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& Disposal Facility shall be minimized. In any event, the Concessionaire will be obliged to make any unscheduled repairs at the earliest opportunity.

O&M of Equipment and vehicles as well as the infrastructure created at Integrated Solid Waste Processing & Disposal Facility & its Facilities.

i. General Obligations: -

The Concessionaire will manage, operate and maintain all onsite plant and ancillary equipment that support the operations of the Integrated Solid Waste Processing & Disposal Facility including but not limited to:

1. Weighbridge and registration system
2. Waste receipt and storage
3. Material Recovery System Recyclable storage
4. Waste processing – compost/incineration/ gasification/Anaerobic Digestion, whichever proposed, and rejects management,
5. Landfill operations
6. Fire Fighting Arrangements
7. Water and fire-fighting equipment;
8. Waste to Energy (if any), power evacuation and connection Vehicle washing system
9. Security systems
10. Paved areas
11. Communication systems, Buildings.
12. Power and lighting, Disinfectant-cum-deodorant, Application of daily soil cover.
13. Vehicles such as excavator-cum-loader, hydraulic tractor, compactor etc.
14. The Concessionaire will manage, operate and maintain all onsite plant and ancillary equipment that support the operations of the Facilities, including but not limited to: -
15. Weighbridge and registration system.
16. Waste receipt and storage.
17. Material Recovery System Recyclable storage.
18. Wastewater and storm water drainage equipment, Fire Fighting Arrangements Vehicle washing system, Security systems.
19. Paved areas, Communication systems, Buildings.
20. Power and lighting, Disinfectant-cum-deodorant.

The Concessionaire should ensure that all equipment, and vehicles are in good condition and are cleaned daily using disinfectants. The Concessionaire should further ensure that all the electro-mechanical equipment in vehicles are in working condition. Periodic inspections by the Monitoring Unit as well as the Independent Engineer should be undertaken to ensure the good operating conditions of vehicles and equipment. The Concessionaire should maintain the stock of spares to ensure the timely replacement for faulty or damaged ones. The damaged vehicles should be repaired or replaced in a timely manner in order to ensure uninterrupted operations at site, in accordance with the notice by the Monitoring Unit or Independent Engineer and the Concessionaire.

All O&M Personnel employed by the Concessionaire at the Integrated Solid Waste Processing & Disposal Facility and Facilities shall hold appropriate training and shall have sufficient relevant experience in the operation and management, to ensure the Integrated Solid Waste Processing & Disposal Facility and Facilities are operated and maintained in compliance with the requirements of the Agreement. The Concessionaire may outsource any part of the operation or maintenance of the Integrated Solid Waste Processing & Disposal Facility and Facilities if deemed appropriate. However, the Concessionaire shall be fully responsible for all operations and maintenance under the Agreement, whether outsourced or not.

The Solid Waste Management Services, including those activities undertaken by Concessionaire/sub-contractors, shall be in accordance with appropriate quality and environmental systems. The Concessionaire's quality and environmental systems shall comply with recognized standards such as [ISO 9000 and ISO 14000] or similar approved systems. The Concessionaire shall submit a QA-QC Plan as a part of the DPR to be made by the Concessionaire during the Planning Phase. The QA-QC plan shall have two components – one that will deal with the

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requirements ***during construction and commissioning*** and the other ***during operations beyond the COD.***

The Concessionaire shall undertake all responsibilities in respect of the Authority under Applicable Laws and as otherwise required by the Agreement. The Concessionaire shall follow the EHS plan, as specified in Schedule 5.

Only SWM, as defined in the Agreement, shall be disposed of at the Integrated Solid Waste Processing & Disposal Facility. The Concessionaire will submit comprehensive procedures for the acceptance of waste at the Integrated Solid Waste Processing & Disposal Facility as part of the DPR to be prepared by the Concessionaire during the Planning Phase. Any modifications to these procedures shall be notified to the Monitoring Committee and Independent Engineer and approval shall be sought before implementing the same.

The vehicles and equipment employed in Integrated Solid Waste Processing & Disposal Facility and Facilities should not be used for any purpose outside the Integrated Solid Waste Processing & Disposal Facility and Facilities.

The Concessionaire shall be responsible for the maintenance of every element of the Facility and will be deemed to have taken consideration of all such maintenance requirements.

Any wastewater treatment units or tanks shall be maintained and dislodged in accordance with manufacturer's recommendations and as required to ensure optimum performance.

No maintenance, repair or replacement of any element of the ISWM Facility / Facilities will affect the temporary or permanent structural or operational integrity of any element of the Integrated Solid Waste Processing & Disposal Facility / Facility, or alter its function. The Authority will be advised of any such action and its agreement received in writing prior to it being undertaken.

The equipment, including all elements thereof, will be maintained in a safe condition at all times. The Concessionaire will ensure that at all times its maintenance and operating procedures are sufficient to ensure that, the Integrated Solid Waste Processing & Disposal Facility and Facilities are available to accept waste for and filling, in accordance with the approved Annual Operations Plan the Facilities are kept in good structural and operating order.

All Integrated Solid Waste Processing & Disposal Facility / Facility's equipment will be operated, calibrated, services and maintained in accordance with the manufacturers' instructions/O&M manuals. These requirements will be included within the maintenance plan for the Integrated Solid Waste Processing & Disposal Facility and Facilities, which is part of the O&M Manual. Prior to operation of the Integrated Solid Waste Processing & Disposal Facility and Facilities, the Concessionaire shall develop O&M manuals that will describe in detail the O&M system, including all O&M procedures and policies. The Concessionaire shall update and revise these O&M manuals as appropriate and get it approved by IE and MC. For Contingencies, Emergencies and Incidents. The Concessionaire will make written records and submit reports of all incidents, accidents, emergencies and remedial measures as defined and in accordance with the requirements. The Concessionaire will take all such actions and do all such things to ensure that emergencies are responded to as quickly as possible and the adverse effects are minimized. All records and reports of incident, accidents, emergencies and remedial measures will be included in the Progress Reports submitted to the Authority.

ii. Waste Receipt: -

a. Upon arrival at the Integrated Solid Waste Processing & Disposal Facility and Facilities, waste delivery vehicles shall be weighed, registered and directed to the tipping area of the Integrated Solid Waste Processing & Disposal Facility without undue delay.

b. The Concessionaire shall develop a suitable mechanism for separately recording the waste coming from each AUTHORITY in the Project Area.

c. The waste shall be unloaded at the tipping area, which shall be kept at a minimum size, and during the unloading the waste will undergo a second inspection prior to spreading, compacting. At the end of the Business Day, the waste shall be provisionally cleared from the tipping area.

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d. Any waste not covered under the definition of SWM in the agreement shall not be accepted. In situations where loads or wastes are removed or rejected at the Integrated Solid Waste Processing & Disposal Facility, the Concessionaire shall record details of the date of occurrence, the types and amount of waste. A report containing this information shall be filed to the Authority by the Concessionaire within 24 hours from the time of the rejection.

e. The Concessionaire will be responsible for arranging and ensuring verification of the weighbridge. All recalibration is to be conducted and certified and carried out as per the weighbridge manufacturer's specification.

f. The Concessionaire shall operate the weighbridge area to ensure safe, efficient and proper use of the weighbridge facility by vehicles at all times with provision of CCTV cameras to be arranged at weighbridges.

g. The Concessionaire shall ensure that the weighbridges are not stopped for maintenance purpose – under unavoidable circumstances, a third party private weighbridge may be used for weighing after taking approval from IE and MC. The Weighbridge slips must be approved by IE/MC in such circumstances.

h. The IE shall have access to the database at all times to view, download and print weighbridge reports in formats to be agreed.

i. The Concessionaire shall record the following minimum data with regard to the incoming waste:
   a. Date of operation.
   b. Truck Number.
   c. Name of AUTHORITY.
   d. Total laden weight of the vehicle Time and Date of entry of the vehicle Total unladen weight of the vehicle Volume of the vehicle.
   e. Time and Date of exit of the vehicle Name of Driver.
   f. Complaint Register from Nearby Areas.
   g. The Concessionaire shall record the following minimum data with regard to the outgoing waste from Facilities.
   h. Date of operation Truck Number Name of AUTHORITY.
   i. Total laden weight of the vehicle
   j. Time and Date of entry of the vehicle
   k. Total unladen weight of the vehicle
   l. Volume of the vehicle
   m. Time and Date of exit of the vehicle
   n. Name of Driver
   o. Complaint Register from Nearby Areas.

iii. Processing Facility: -

The Concessionaire shall ensure that the processing facility/facilities at Integrated Solid Waste Processing & Disposal Facility and Facilities are maintained to the standards and specifications as set out in the Construction Requirements and also meet the other requirements, if any, set out in the Agreement and shall follow BIS standards BIS Codes, SWM rules, CPCB Norms and any other statutory norms that may enforce during the concessionaire period must follow and agree by the concessionaire. In the design, planning and implementation of all works and functions associated with the operation and maintenance of the Processing Facility, the concessionaire should take all such actions and do all such things (including without limitation, organizing itself, adopting measures and standards, executing procedures including inspection procedures, and engaging contractors, if any, agents and employees) in such manner, as will: Ensure the safety of personnel deployed and users of the Processing Facility or part thereof; Keep the Processing Facility from undue deterioration and wear and tear; Permit unimpaired performance of statutory duties and functions of any Party in relation to the Project; During the operations of the Processing Facility after the C&T COD, the concessionaire shall, in respect of the Processing Facility, ensure that

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Applicable and adequate safety measures are taken; The Processing Facility are kept free from undue deterioration and undue wear and tear; Adverse effects on the environment and to the owners and occupiers of property and/ or land in the vicinity of the Processing Facility, due to any of its actions, is minimized; Any situation which has risen or likely to arise on account of any accident or other emergency is responded to as quickly as possible and it adverse effects controlled/ minimized; Data relating to the operation and maintenance of the Processing Facility is collected, recorded and made available for inspection by concerned; All materials used in the maintenance, repair and replacement of any of the Processing Facility shall meet the Construction Requirements;
The personnel assigned by the Concessionaire have the requisite qualifications and experience and are given the training necessary to enable meeting the O&M Requirements.

The Concessionaire should ensure the operations and maintenance is carried out as per the Operational Plan as specified in the O&M Manual. A disinfectant-cum-deodorant spray mechanism shall be provided to spray the required quantity of the chemical in an adjacent area for Sanitization that reduces mal-odor and repel insects and birds. Further, the facility shall be managed in such a manner that it may not attract birds, thereby avoiding the likelihood of any bird aircraft collision.

The concessionaire should also provide and maintain a / Incineration for the treatment of dead animals, including all carcasses, visceral remains, hides, hoofs or such other animal parts which are found within the Project Area and shall ensure that the only the ash of animals is dumped in the landfill site.

Iv. Landfill Facility: -

The Concessionaire would ensure that the Landfill for Interim Phase and Landfill for ISWM Operations Period are operated and maintained to the standards and specifications as set out in the design and development of the said site and also meet the other requirements, pertaining to environmental safety of the facility.

The Concessionaire would organize himself in adopting measures and standards, executing procedures including inspection procedures, and engaging contractors, if any, agents and employees in a manner to ensure The safety of personnel deployed on and users of the Landfill Facility, to keep the Landfill Facility from undue deterioration and wear, and permit unimpaired performance of statutory duties and functions of any party in relation to the facility. Before the start of operations of the landfill, the Concessionaire would include in O&M Manual the plan for important aspects of Landfill Operations such as, but not limited to, waste unloading spreading and compaction, waste discharge and inspection, maintaining a daily cover, intermediate cover, and pollution prevention during landfill management, bird control, vermin control, landfill fire management and landfill safety aspects etc. All waste rejects from MRF & Processing Facility shall be accepted at the landfill after due inspection and approval. As per the SWM rules, if there is no path way or sale for disposal of RDF, the same shall be stored in the landfill until the sale happens as per the SWM rules 2016 and Statutory norms. Unloading of waste from delivery vehicles is a potentially hazardous operation. All drivers should be trained to be fully aware of the site rules governing the unloading of waste and obey instructions issued by site-in- charge. Waste should be unloaded at discrete discharge points as directed by site operatives. A minimum of two discharge points would be maintained at all times. Control would be exercised over the number of vehicles permitted into the discharge area at any one time. Comprehensive sign – posting would direct all drivers to the specific discharge point they should take the waste to Energy. The designed tipping slopes should be maintained during tipping operation. The waste should be spread in the cell area in layers not exceeding 50 cm and should be compacted by the compactor. The subsequent loads are pushed above the initial layer to form the design cell height and to attain the design slopes. Considerable care should be taken when placing the initial lift of waste above the landfilling and leachate collection layer. Individual items of wastes that may be deemed to be unsuitable, if these are large or bulky and likely to penetrate or deform the basal engineering measures, should be stockpiled and, as soon as the initial lift becomes of sufficient extent, should be incorporated into an early second lift. The Concessionaire shall provide the calibration certification from the manufacturer/ independent certification agency for the weigh-bridge. The weigh-bridge shall be non- operational for not more than 7 days a year. Data recording and reporting format shall be decided in consultation with Independent Engineer and shall

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form part of the O&M Manual. The Concessionaire shall record the following minimum data with regard to the Landfill Waste: -

a. Date of operation
b. Truck Number
c. Name of AUTHORITY
d. Total laden weight of the vehicle
e. Time and Date of entry of the vehicle
f. Total unladen weight of the vehicle
g. Volume of the vehicle
h. Time and Date of exit of the vehicle
i. Name of Driver
j. Complaint Register from Nearby Areas

The procedure for weighing of the Landfill Waste and certification by the IE shall be, as set out in the O&M Manual. Waste Discharge and Inspection: The Concessionaire should obtain a "Fit for Landfilling" certificate from the IE based on the definition of Residual Inert Matter and Other Inert. Waste would be discharged by tipping at the working area of a landfill, within the area demarcated for the cell. Every discharged load would be visually inspected by a designated Concessionaire. Working area personnel would be trained and competent at waste identification in order that they can recognize waste which may be non-conforming. In the event of reasonable doubt as to the waste acceptability, the Concessionaire would inform the waste reception facility and/or the site manager immediately.

iv. Intermediate Liners:

The Concessionaire would provide a liner layer ("Intermediate Liner") before the onset of monsoon leaving only a temporary un-restored sloping face. The Intermediate Liner shall be as per the Construction Requirements.

Landfill Daily Cover:

The advantages of using daily cover are to prevent windblown litter and odors, deterrence to scavengers, birds and vermin and in improving the site's visual appearance. It is also advocated as a means of shedding surface water during the filling sequence, thereby assisting in leachate management by reducing infiltration. The concessionaire can use construction debris as cover material in place of fresh earth, if available. Daily cover should not be rolled and compacted as a compacted daily cover leads to a diminished void ratio, leading to leachate becoming perched and difficult to extract.

Landfill Fire Management:

Landfill fires are a common phenomenon in most of the landfill sites. All fires on-site would be treated as a potential emergency and dealt with accordingly. The site would be accompanied with an emergency tipping area, set aside from the main operational area. Fires within the operational area are either surface fires or deep-seated fires. The former usually occur in recently deposited and as yet un-compacted materials adjacent to the current working area, whilst the latter are found at depth in material deposited weeks or months earlier. The concessionaire should prepare and submit a plan to deal with each type of fire. Regardless of the circumstances, no individual should ever tackle a landfill fire alone.

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Special Operational Conditions:

The Concessionaire would provide a benching (terrace) of 3-5m width for every 5m – 10m height of filling within the Engineered Sanitary Landfill. The slope of the Engineered Sanitary Landfill face shall not exceed 1:3.

Final Cover and closure:

After reaching the final height for laying of the final cover, the Concessionaire would seek approval from the authority and submit a plan for closure of that cell. The Concessionaire would provide the final cover in accordance with the construction requirements.

Leachate Collection and Removal:

The Concessionaire should ensure that there is no overflow of leachate from the leachate collection and removal system and that all leachate drains are free from clogging and allow unobstructed flow of leachate. No untreated leachate to be let out from the Site.

Gas Recovery and Greenhouse Gas mitigation system: -

The Concessionaire shall ensure that the greenhouse gas emissions from the Landfill Facility conforms to the permissible limits as per Applicable Law and be collected in accordance to the design & construction requirements. Based on the analysis, if the landfill gas is effective (active vent system) shall be flared with proper arrangement and in no case (passive vent system) shall be let out into the atmosphere. The Integrated Solid Waste Processing & Disposal Facility and Facilities shall be inspected by IE, or Person acting in such role, at least once every week. The inspection will include details, comments and recommendations for action on the following general items at a minimum:

Compliance with Environmental Management Plan: -

Weather conditions/meteorological data; Compaction of waste; Covering of waste; Litter netting; Condition of roads; Wheel cleaning operations; Integrated Solid Waste Processing & Disposal Facility housekeeping; Control of birds, vermin and insects; Surface water system; Surface water condition; Ground water control; Condition of receiving watercourses; Environmental nuisances – litter, odor, noise, dust; Topography of the site: data on the landfill body; Security; Fence and gates. The Site inspection findings shall be recorded as ISWM facility Inspection Report and filed. These reports should be available for review during the visit of the External auditor or by Authority itself.

The Concessionaire will provide, maintain and bear the full operational costs, for the following services at a minimum Electricity; Energy; Water; and Telecommunications (telephone, facsimile, email and internet).

The Concessionaire will be responsible for: -

Ensuring adequate 24 hour security of the Integrated Solid Waste Processing & Disposal Facility and Facilities; Ensuring that there is no unauthorized access to or use of the Integrated Solid Waste Processing & Disposal Facility / Facilities including scavenging; and Ensuring that building, stores, fences and gates, equipment etc. are secured outside operating hours.

The Concessionaire will undertake regular risk assessments of the Facility's operations and provide a copy of these in the Progress Reports to the Authority. In addition, the Concessionaire shall also arrange for

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regular Site inspections by the Independent Engineer and shall provide copies of any reports to the Authority. These audits would be quarterly for the first 3 years of operation and thereafter semi- annual audit reports should be submitted. The reports should clearly indicate at least the following: -

- Summary of monitoring status including air quality, noise, groundwater, and surface water.
- Accidents, spills and emergencies.
- Complaints and their redress EHS Issues and their mitigation.
- Operation statistics - The amount of waste received, recycled, processed and disposed, efficiencies of operations of equipment and processes;
- Status of compliance with various regulations; and Any items requiring the Authority's intervention.

The Concessionaire shall provide O&M for Mandatory Facilities at Integrated Solid Waste Processing & Disposal Facility as shown in table below:

Description of Facility	Operation and Maintenance Standard
Storm water drainage system	All storm water drains are free from clogging and allow unobstructed flow of water. Maintain shape and scope in the designed manner during the Project.
Leachate Collection & Drainage System	No overflow of leachate from the leachate collection tanks Cracks or leaks in the leachate collection and drainage system to be sealed immediately Free from clogging and allows unobstructed flow of leachate
Water supply system	Water for drinking purposes to meet IS 10500 Water supply for gardening and flushing to meet the inland surface.
Quality control laboratory	Quality and calibration certification from a manufacturer/ independent certification agency.
Internal roads	The main roads shall be pot-hole free and in good motor able condition.
Lighting & other electrical works	Minimum lux level of 20 in the area of operation (in case of 2 shift operations).
Boundary Wall	Any breach in the boundary Wall to be sealed promptly. Boundary Wall to be inspected periodically.
Green belt	Maintained in accordance with O&M Manual.
Work shop	Vehicle puncture and emergency repair works.

Environmental Baseline Testing and Monitoring: -

Before commencing development, concessionaire shall undertake various investigations as mentioned hereunder:

a. Investigation: -

A detailed investigation plan may be drawn up in consultation with a geotechnical engineer. The output from such an investigation should yield the following:

Stratification of subsoil – type of soil and depth to groundwater table and bedrock (if located within 10m of base of landfill) Permeability of various strata beneath the landfill
Strength and compressibility properties of subsoil Extent of availability of liner material, drainage material, top soil, and protective soil in adjacent borrow areas Subsoil properties along approach road.

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b. **Groundwater/Hydrogeological Investigation: -**

A detailed investigation plan shall be drawn up in consultation with a ground water specialist/water resources engineer or a hydrogeologist. The output from such an investigation should yield the following: Depth to groundwater table and its seasonal variations Ground water flow direction Baseline groundwater quality parameters – all drinking water quality parameters.

c. Environmental Investigation: -

The following baseline parameters must be established for a one-year period prior to construction of a landfill:

- ***Ground Water Quality***: Minimum of 3 samples from each aquifer analyzed on a monthly basis for drinking water quality parameters.
- ***Surface Water Quality***: Minimum of 3 samples from a stream/storm water drain analyzed on a monthly basis and for parameters relevant for wastewater drains.
- ***Landfill Gas****:* Sampling and analysis for methane, hydrogen sulfide and other gases on a monthly basis. **Dust**: PM 10 (Particle size less than 10 Microns) monitoring on a monthly basis, specifically at noon, during hot, dry, windy days.
- ***Odour***: Monthly analysis at the site and at 200m intervals from the landfill boundary to the nearest inhabited zone.
- ***Noise****:* Peak noise analysis at the site and nearby inhabited zone on a monthly basis.
- ***Vegetative Cover***: Vegetative mapping on a seasonal basis.

d. Leachate Investigation: -

Leachate quality shall be assessed from both laboratory studies and field studies. Laboratory leachate tests may be performed. In addition, leachate samples should be analyzed from existing waste dumps near the Integrated Solid Waste Processing & Disposal Facility.

The Concessionaire will be responsible for onward monitoring necessary to assure that the Solid Waste Management Services including waste processing and landfilling are in accordance with Applicable Laws and Applicable Permits. Monitoring shall be carried out in the following four zones and also, as per the requirements of approved environmental monitoring plan of EIA report:

- On and within the Sanitary Landfill.
- In the unsaturated subsurface zone around the Sanitary Landfill.
- In the groundwater (saturated) zone around the Sanitary Landfill.
- In the atmosphere/ local air above and around the Sanitary Landfill.

The Concessionaire will include the results of such monitoring in the Bi-Monthly Progress. Reports submitted to the Authority. The Concessionaire will provide and maintain safe and permanent access to all monitoring points within the Facility. The Concessionaire will maintain and clearly label all monitoring points within the Facility in a suitable manner.

Prior to operation of the Integrated Solid Waste Processing & Disposal Facility, the Concessionaire will submit to the Authority the names, qualifications and details of relevant experience of individuals assigned to carry out and interpret all sampling and monitoring within the Facility as specified to be carried out by the Concessionaire.

The Concessionaire will maintain an up-to-date record at the Integrated Solid Waste Processing & Disposal Facility of the names and qualifications of all Persons who carry out all sampling and monitoring within the Facility as specified to be carried out by the Concessionaire and who carry out the interpretation of the results of such sampling and monitoring.

All monitoring data generated at the Facility shall be kept by the Concessionaire safely at the Integrated Solid Waste Processing & Disposal Facility site. The Concessionaire will develop and maintain an electronic data management

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system for collating, assessing, presenting and archiving of all such data with suitable backup.

The Concessionaire will monitor (off-site or fence line monitoring) ambient air quality at regular intervals as per the recommended norms and guidelines of GoI and GoK regulations.

Parameter	**Acceptable levels**
Sulphur dioxide	*120 µg/m3 (24 hours)*
Suspended Particulate Matter	*500 µg/m3 (24 hours*
Methane	*Not to exceed 25% of Lower Explosive Limit (equivalent to 650mg/m3)*
Ammonia daily average	*0.4 mg/m3 (24 hours)*
Carbon monoxide	*2 mg/m3 (1-hour average) 1 mg/ m3 (8 hour average)*

The Concessionaire will monitor water quality at points which interface between the site and external environment (e.g. drains or canal converging into the river or a sewerage system, land disposal) and will take all necessary measures to satisfy effluent quality as per the applicable Indian regulations and guidelines.

Monitoring frequency: -

Description	**Frequency**
During Active Period	
Leachate quantity	**Daily**
Ground water quality- within the site	Once in 3 months or as per the IS Code of Practice
Ground water quality- Outside the site	Once in 6 months or as per the IS Code of Practice
During Post Closure period	
Movement of the Sanitary Landfill cover Leachate quantity	**Yearly Quarterly or as per the SWM/ KSCB/CPCB/MOEF&CC norms/ BIS Norms**
Leachate quantity	Quarterly
Ground water quality- within the site	Once in 6 months
Ground water quality- outside the side	Once in 6 months
Gas Quality	Once in 6 months

Note: All above monitoring frequency and maintenance of the quality shall be as per the **SWM 2016 guidelines/ KSPCB/CPCB/MOEF&CC / BIS Norms. No deviation is permitted**

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SCHEDULE 23 – GENERAL TECH SPECIFICATIONS FOR PROCESSING & DISPOSAL

General Technical Specifications for Processing & Disposal facility: -

1. Ballistic separator / Trommels as per the design
2. Conveyor with Dual Trommel
3. Truck Mounted Refuse Compactor – 14m^3 Capacity
4. Excavator cum Loader
5. Front end Loaders
6. Tractor Trolley for Hydraulic Tractor
7. Landfill Compactor
8. Weighbridge 50 MT Capacity

Sl. No.	Waste Processing Mechanism	Description
1.	**Wet waste**	
	a. Bio methanation	Up gradation of technology from aerobic composting process to mesophilic anaerobic digestion will lead to improved utilization of organic fraction of solid waste. Processing of wet waste based on Maximum Yield Technology (MYT) ➢ It is a new treatment and utilization of residual household waste. ➢ MYT breaks down into four components, treating them according to their specific material and extracting the maximum potential from them. ➢ Mechanical pre-treatment breaks the waste down automatically into individually defined fractions, according to the material of different size. ➢ The "biological step" ensures particularly efficient and stable process flows. Simple and robust aggregates guarantee maximum operational security at simultaneously low investment and operational costs. ➢ Interim storage permits a flexible and consistent dosage of biological process steps. The targeted reproduction of microorganisms ensures high level and constant biological activity. ➢ Then, the waste is selectively homogenized. ➢ After a short retention time in the mixer, presses dewater the solid material which is ideally prepared for biological drying. ➢ Microorganisms living in biogas fermenters generate biogas from organic compounds. ➢ At the end of the process, we get nutrient rich water to be used as a liquid fertilizer in the agriculture industry. Bio CNG as a product has an already demand both for government as well as private offtake. In addition, fermented organic manure has also much better quality and market acceptance as compared to the organic manure. Also, since the technology leads to formation of Bio - CNG, fermented organic manure and liquid digestate from source segregated organic fraction of solid waste, in comparison to organic compost of solid waste, in comparison to organic compost from the existing plants, there will be a significant additional reduction in carbon emission. Minimum Area required for the installation of Bio- CNG plant of 2500 TPD (excluding impurities up to 10%) is around 30 acres. In a similar proportion, the land shall be earmarked for the proposed capacity of Bio CNG plant based standards mentioned in BIS draft specifications and MOUHA guideline on Circular Economy Guidelines or SBM 2.0 Guidelines

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		The Proposed --- TPD (excluding impurities up to 10%) capacity Bio- CNG Plant at _____will comprise of the following main components: ● Waste Reception Area (Deep Bunker) ● Pre Treatment Facility ➢ EOT Crane ➢ Primary & Secondary Hoppers ➢ Trommels ➢ Hammer Mill ➢ Conveying System ● Anaerobic Digestions(Digesters) ● Digestate Treatment (Solid / Liquid Separation) ● Biogas system ● Effluent Treatment Plant ● Windrow Composting ● Combined Heat and Electricity Production System ● Biogas Upgradation System ● Biogas Storage System ● Odour Control System
	b. Composting	The Solid substance that comes out as an inert/ solid waste from the Bio-methanation process shall undergo the composting process. The main processing technology used for composting is Aerobic Composting. The organic material present in SWM is converted into stable mass by aerobic decomposition. Aerobic microorganisms oxidize organic compounds to carbon dioxide and oxides of nitrogen and carbon from organic compounds used as a source of energy, while nitrogen is recycled. The module has a concrete platform where windrow piling operations are being organized. The height of each windrow is limited to 2.5 meters to ensure effective aeration. During windrow processing, care is being taken to maintain the required temp/moisture levels. An appropriate microbial culture and treated leachate is applied for faster biodegradation. The retention period for the waste in the windrows is 4 weeks. The windrows are turned every week to ensure proper aerobic conditions by specialized equipment called Compost Turner. After maturation and fermentation processes, the organic matter will be cleaned from remaining improper material. This step is called compost refining and its aim is to obtain a cleaner product before its sale. The trommel is fed by means of a belt conveyor and will screen material at 12mm, considering that elements with a size above 12mm are refused and removed from the process.
	c. LTP	Leachate Treatment Plant Facility is to be installed so that leachate coming from the composting and processing facility is treated and Wastewater is reused. This treatment facility requires reducing the BOD and COD to the Permissible limits of CPCB norms. Nothing is discharge in natural stream, i.e. Zero Liquid Discharge system.
2.	**Dry Waste**	
	a. MRF	The proposed material recovery facility (MRF) shall accept source segregated dry waste material and shall further separate, process and store them for later use as raw materials for remanufacturing, reusing and reprocessing. Material Recovery Facility (MRF) is also known as Material Reclamation Facility or Material Recycling Facility. The waste material is basically segregated into different streams of waste fractions (paper, plastic, packaging paper, bottles etc.) which in turn shall be supplied to the recycling industries. MRF shall require medium to large storage spaces depending on the type of material fraction for temporary storage sorted recyclables which can be made available to recyclers in bulk quantity. In the proposed MRF, the entire process will be carried out with sophisticated systems and equipment that enable efficient separation of large quantities of material into different fractions. The main function of the MRF is to maximize the quantity

of recyclables processed, while segregating materials that will generate the highest possible value from the recycling market. MRF also helps in segregating combustible fraction (RDF), non-recyclables and inert from the dry waste stream. These fractions may be utilize/reused as:

- Recyclables – Reuse/ reprocessed
- Non-recyclables - Road making/ plastic to oil
- RDF - Waste to Energy/ Cement Industries
- Inert - C&D plant/ daily cover of SLF

Plant Configuration: The proposed facility is designed as a Dry Waste MRF that shall receive source segregated or commingled recyclable materials (recyclable materials that are already separated from other main solid waste or wet waste). Dry segregated material shall be received in a commingled form consisting of a combination of paper, cardboard, magazines, plastics etc. and commingled containers (plastic, glass, metal, etc.), among other materials.

The proposed system involves following equipment:
1. Moving Bed Feeder
2. Trommel Unit
3. Conveyors
4. Magnetic Separators
5. Air Density Separator
6. Electrical Panels
7. Manual Sorting Stations

Operation & Process Flow: The complete material and process flow in the MRF shall be as per below

1. Incoming fresh waste is unloaded in the waste receiving pit. Pit is around 1.5 m deep. Holding capacity of the pit is for 2-3 days.

i. The material is directly fed in a moving bed feeder which can take loads of 1- 2 cum at a time. Grab cranes of 2 Cu M will be used to feed material.

ii. MBF feeds Trommel Screen 35 /100 at Slow rate. The feed rate can be adjusted steplessly using VFD automatic control.

iii. Material fed to the trommel screen is screened in two stages. First section has fine perforations of 35 mm which removes out all fine material, road sweepings etc. This is mostly dry & inert waste which needs to be sent to landfill.

iv. Process Conveyor 100 mm collects all wet fraction & transfers it to reversible loading conveyor which is Bi-directional conveyor and it loads material alternately in vehicles for transfer of material to compost pad for aerobic composting.

v. All +100 mm material is collected on Transfer 100 conveyor which in turn is feeded to the 175 mm trommel screen.

vi. This trommel has dual perforations of 175 & 400 mm.

vii. First section has a 175 mm screen which screens out all -175 mm material and feeds the same to the air density separator.

viii. The 175 mm trommel has 400 mm perforations. This section screens all -400 mm material and transfers the same to ADS feeder conveyor 400 mm.

ix. All oversized materials pass through a sorting conveyor to facilitate manual sorting of recyclables. Finally, left-over material falls in an inert collection pit from where periodically material is transferred to landfill.

x. ADS feeder conveyors feed respective Air Density Separators.

xi. Air Density Separator further separates material based on heavy & light fractions.

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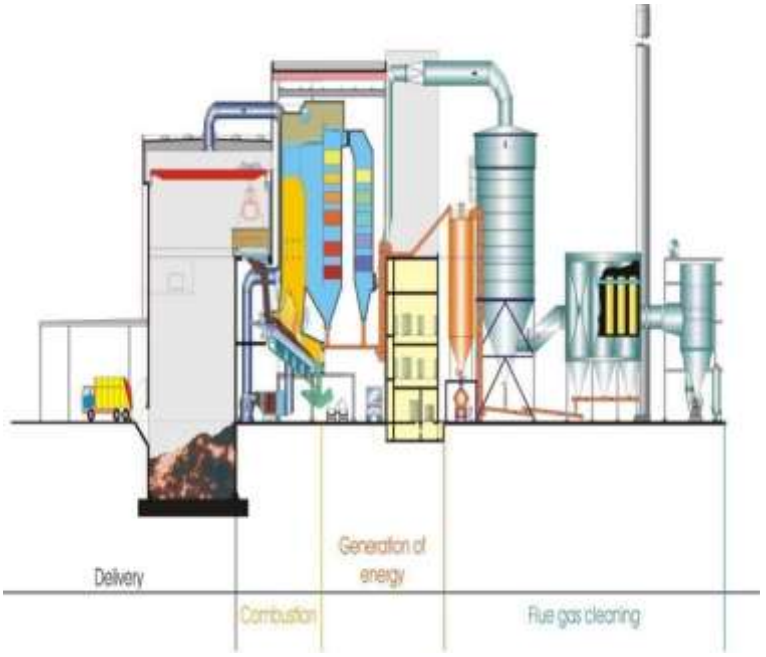
		xii. All heavies are collected on Heavies Sorting Conveyor, where they are sorted for recovery of recyclables. All leftover material is stored in an inert collection pit which holds material which needs to be transferred to landfill. xiii. All light fraction falls on a lights sorting conveyor where all recyclables are manually sorted. All leftover material is suitable as RDF so it is dropped in the RDF collection pit. xiv. All Recyclables are collected in respective recyclables collection bays for further sale of processing thus, complete separation of Mixed Waste into wet & dry waste is achieved mechanically. Thereafter reducing dependency on source segregation.
	b. Waste to Energy	**Power Generation Unit:** SWM is highly heterogeneous and the percentage of its constituents varies widely depend the source. Further seasonal changes also contribute to the higher level of heterogeneity in To assess the suitability of any technology for processing SWM, it is very important to b analyze the composition and the weight fraction of each of the constituents with refere different sources of its generation. The controlled combustion of waste with the recovery of heat to produce steam that i produces power through steam turbines. Combustion process needs sufficient quantity of complete combustion of the incoming SWM to generate heat energy. ● Combustion of SWM allows huge savings at the landfill as the volume of S reduced in the form of ashes and slag as compared to the original waste volume. ● In WTE plants based on Combustion, the entire energy contents of waste are reco except the unavoidable fraction that is lost through the flue gas, cooling devices, walls and ashes. ● Considering all the above, Combustion of SWM to produce power will be the opt this project.  Fig: Typical sectional view of WTE facility **POWER PLANT SCHEME:** The steam cycle defines the transformation of the heat energy to the mechanical energy turbine shaft, through the various thermodynamic processes that are capable of producing heat flow or work when placed between the energy source and energy sink. The heat en derived from burning of some fuels or using heat energy already available in the hot waste The cycle needs a working fluid and steam is considered for the same. Steam is viewed

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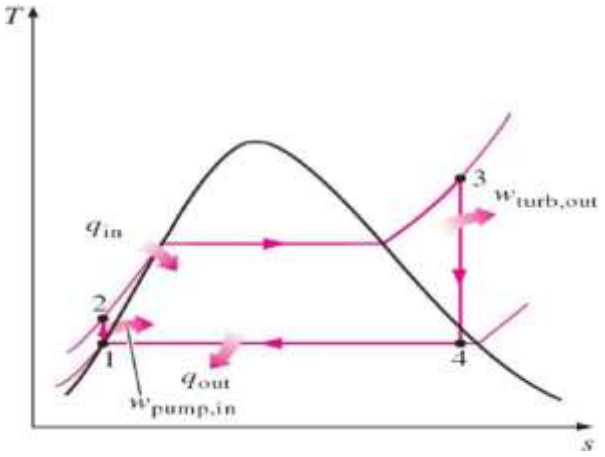
most favored working fluid mainly because of its unique combination of high thermal pacity, ca high critical temperature, high latent heat, excellent heat transfer characteristics, ability wide avail at cheaper cost, nontoxic and noncorrosive nature.

All the steam based power plants operate under the Rankine Cycle. In simple terms ankine the R Cycle is described as the combination of the various processes like the sion of isentropic compres water in the boiler feed water pumps (1 to 2), reversible heat d (2 to addition to the working flui edium 3) through the liquid, two phase and superheat states, isentropic expansion of the rough working m in the turbine (3 to 4) and the constant pressure heat rejection to the atmosphere (4 to 1) th the condenser.



of a

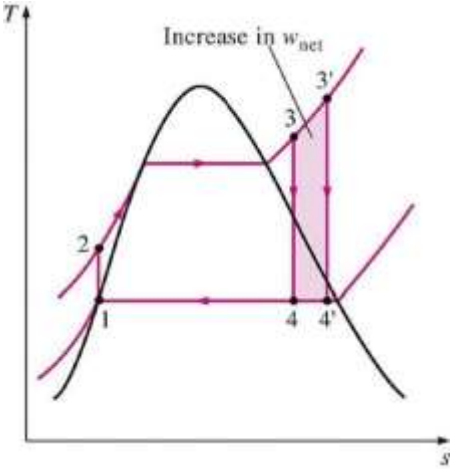
The cycle to be adopted for this project will be a modified Rankine Cycle with the addition Regenerative feed water heating. y and

High pressure and high temperature cycles are crucial for increasing the operating rature efficienc the power output from the power Plants. The choice of the level of the water pressure and tempe for the cycle depends on the level of confidence in the plant sted, operators, quality of the feed and the water treatment systems available, type and Turbo characteristics of fuel to be combu capacity of the power plant and the cost of the sale of high pressure/temperature boiler and generator systems and the financial benefits realizable from the power plant by way of the the exportable power.

owing

Thermodynamically, energy recovery from the Rankine Cycle is more dependent on the foll factors:

- Steam inlet temperature to the steam turbine
- Steam outlet pressure from the steam turbine



Increase in power output due to variation in the inlet steam temperature

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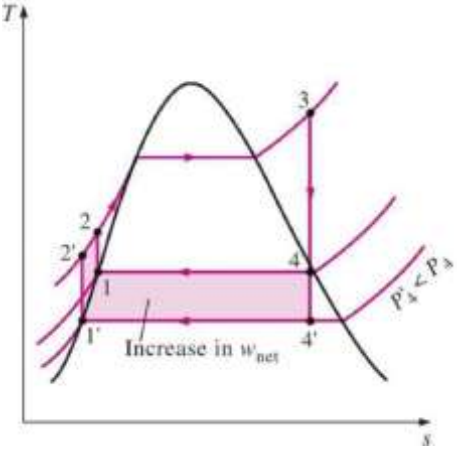

Increase in power output due to variation in outlet pressure

Higher the inlet steam temperature (3 to 3' in above figure), higher the cycle power t and outpu in-turn higher cycle efficiency. However, because of the nature of the which working medium, is steam, the pressure also plays a major role in ensuring the useful optimum extraction of the energy from the working medium and hence, the increase in ld be the steam temperature shou accompanied by the matching increase in the pressure. limits However, the practically attainable of temperatures are influenced by the metallurgy urbine of the boiler tubing, piping and the t components and the complexity of the Creep higher fatigue interaction for the materials at temperatures.

It is also extremely important that the selection of the temperature is done keeping in nd the mi nature of the industry, type of fuel to be combusted and its characteristics capacity power of the plant under consideration, etc. Considerations such as cost, maintainability, quate provision of ade safety margins, the experience of the industry so far and the level sonnel of the operating per available in the industry, enable us to select the practical limit on for the the steam temperature plants of the subject size and nature.
Considering the above, it is proposed to install steam generator with outlet steam ers of paramet 45 bar (a) and 400±5°C. The steam inlet to the turbine will be 42 bar(a) and th the 395±5°C, w difference in the pressure and temperature accounting for the losses in the the steam piping fr boiler to the turbine.

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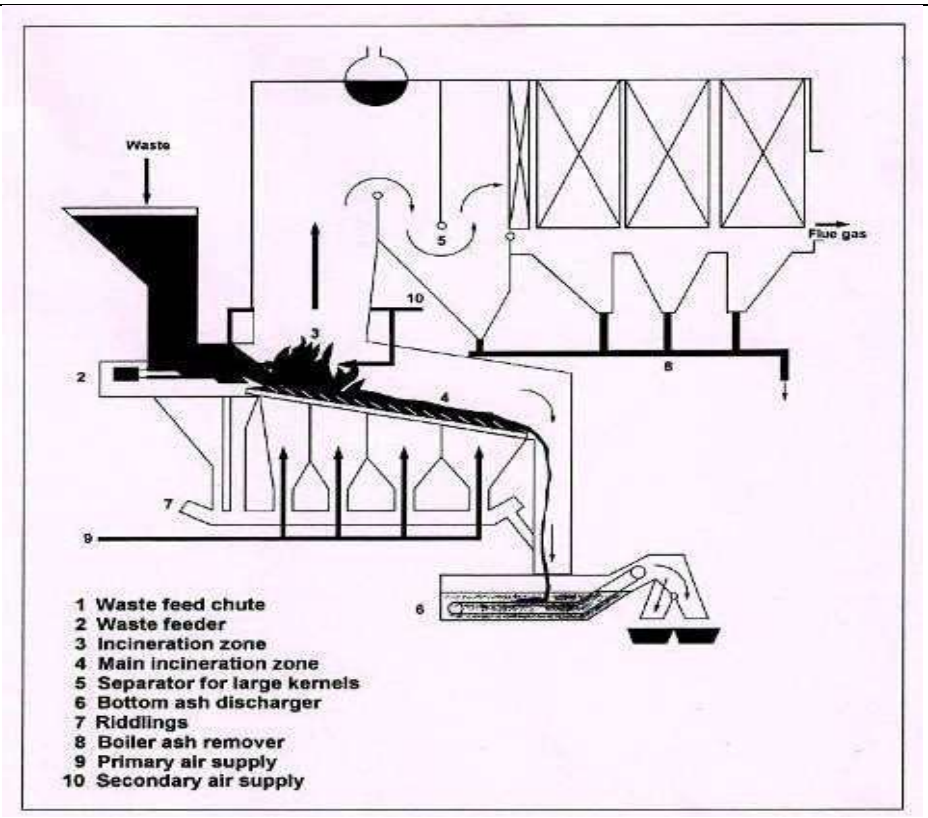

Thermal Processes:

There are many combustion technologies available for combustion of SWM, namely, oving m grate, rotary kiln and fluidized bed. Moving grate technology being the most feasible, oven well pr and widely used technology for combustion of mixed waste is suggested for the roject. proposed p Other thermal processes like gasification and pyrolysis exist but have on a not been proved commercial scale.

Among various available moving grate designs, the Reciprocating (also called pusher) grates constitute the most widely used and effective way to move waste internally in the boiler combustion zone. Reciprocating grate system resembles stairs with alternate fixed or oving m grate sections. The pushing action may be in the direction of movement of waste or ward in an up motion against the waste flow.

Schematic Representation of a Reciprocating Grate Facility(fig)

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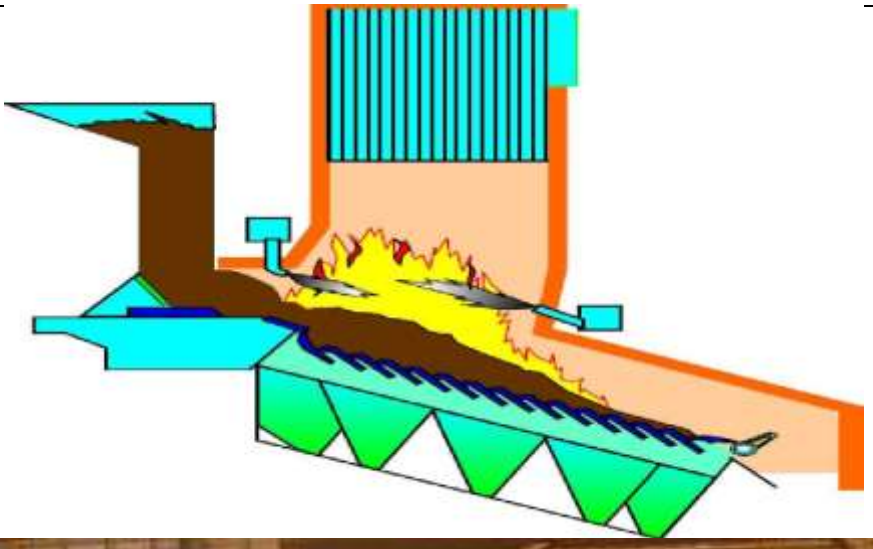

- We propose to use a reciprocating grate with air cooling along with Ram Feede r for smooth and uninterrupted feeding of waste. Water-cooled grate combustors ve the ha added advantages of better combustion control and the ability to process solid municipal waste with higher heat content.
- Major component of the moving grate incinerator includes:
  - ✓ Incineration grate,
  - ✓ Bottom air discharger,
  - ✓ Incineration air duct system,
  - ✓ Incineration chamber,
  - ✓ Auxiliary burner
- In this type of incinerator, waste is fed into the grate system by a conveying ystem s and the grate moves the waste through various zones of the combustion ber in cham a tumbling motion. The main function of the moving grate system is to rt the transpo material to be incinerated through the furnace; stoking and rial to loosening of mate be incinerated; and positioning of the main ration incineration zone in the incine chamber. The normal residence time of the to 120 waste on the grate is 60 minutes minutes. Combustion takes place above the grate in the incineration chamber.
- Combustion air is admitted in two stages; in the primary stage, the air is mitted ad below the grate/ through sides; and in the secondary stage, air is located e the abov grate to ensure better air penetration and turbulent mixing for complete stion. combu

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		The admission of the secondary air will reduce the temperature of the combu products thus lowering the formation of NOx. The correct proportion of prima secondary air will also reduce CO formation. ● A minimum gas phase combustion temperature of 950°c is required to be main and minimum residence time of 2 seconds above this temperature is requi achieve good burn out of combustion gases. The bottom ash discharger is use cooling and removal of solid residue that accumulates on the grate. ● Energy recovery is the added benefit of combustion and is done by passing the gas carrying the energy released in the waste incineration, through a boiler. has primarily two functions; first is to cool the flue gases; and second is to tr the heat from the flue gases to another fluid, usually water which most o converted into steam inside the boiler. ● We propose a water wall furnace (Membrane water wall) where the walls combustion chambers are made up of water filled heat exchange pipes to co combustion gases. A suitable refractory will cover the lower portion of the tub by means of studs where the temperatures are the highest and the environm most aggressive from the corrosion and slagging point of view. ● The energy transferred to the boiler will be used for generation of steam or hot and generation of electricity. The proposed system of water walled boiler wil radiant passes& convective passes for the heat transfer from hot gases: ● Most of the heat transfer will be through radiative heat transfer to the water tubes close to grate and the tube banks in multiple passes thereafter ● Also, convective heat transfers to the tube banks, superheater tubes and the feed water in the economizer. ● The steam generated from the boiler shall be expanded in a steam turbine gen to generate electricity. The steam turbine will exhaust steam to a condenser, it is condensed to water. ● The flue gas from the combustion process might contain corrosive materials/ including particulate matter (dust), chlorides, Sulphur compounds and trac heavy metal. The type of pollutants and their concentration depends composition of input waste and combustion conditions. It may be noted that temperatures, the presence of Sulphur counteracts the attack by chlorides. Cor effects of these gases can be significantly controlled by keeping the gas tempe within the range of 650-675°C.

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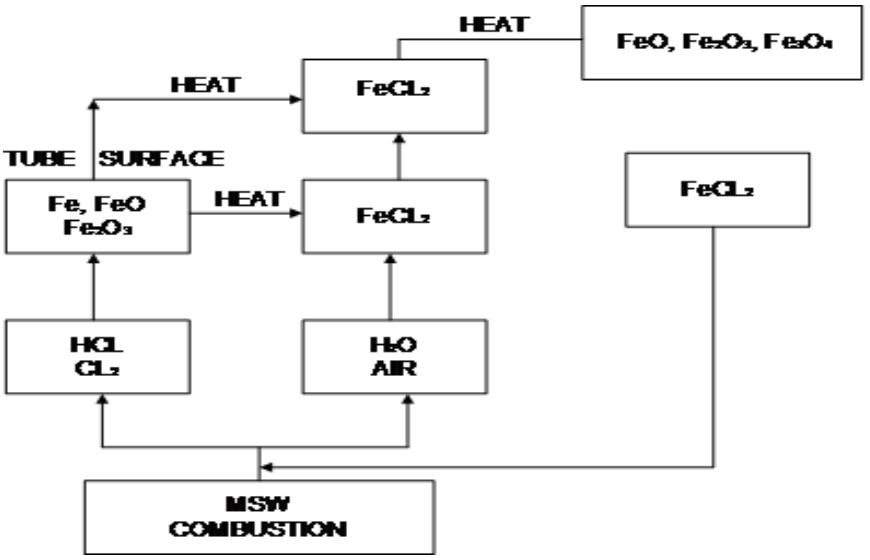

Fig: Corrosion Diagram

- Presence of carbon monoxide due to incomplete combustion can alsocreate problems to the super-heater due to its corrosive nature. Our proposed system shall have the provision of supplying optimized secondary air to ensure complete combustion of fuel.
- Considering the nature of the fuel to be municipal waste, its heterogeneity and problems associated with fuel feeding & charging systems, the operating parameters are proposed to be 45 bar (a) and 400±5°C of steam at the boiler outlet. The steam inlet to the turbine will be 42 bar (a) and 395±5°C, after accounting the losses in the piping from boiler to the turbine inlet valve. However, will be optimized during detailed Engineering.

Proposed Design:

The WTE Power plant will be designed for year round operation, for combusting the SWM.

Ambient / Site Conditions

Plant Location	:	Bengaluru
Temperatures:		
Temperatures (Min/Max)	:	7.3^0C / 47^0C
Design Temperature for Performance	:	30^0C
Design Temperature for Electrical	:	50^0C
Temperature variations	:	7^0C to 45^0C
Relative Humidity		
Plant Design Relative Humidity	:	60%
Design Wind Velocity	:	As per IS 875
Seismic Co-efficient	:	As per IS 1893
Water Resource	:	Concessionaire

- Boilers of ranging suitable capacity with the gross power generation potential of about 36 - 40 MW or more as per requirement through steam turbine generator at optimum

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calorific value. However, the plant was designed to operate at a range of calorific values with a range of power generation considering the variance in calorific value.

- Reciprocating stroke grate combustor, operated by a hydraulic system having three zones of each for drying, combustor and de-slagging purposes. This grate is driven by a Hydraulic system with suitable pressure and hydraulic cylinders are used to operate the complete grate system.
- The combustor and refractory is designed to retain 950 Deg. C for 2 seconds at furnace as per SWM rules 2016.

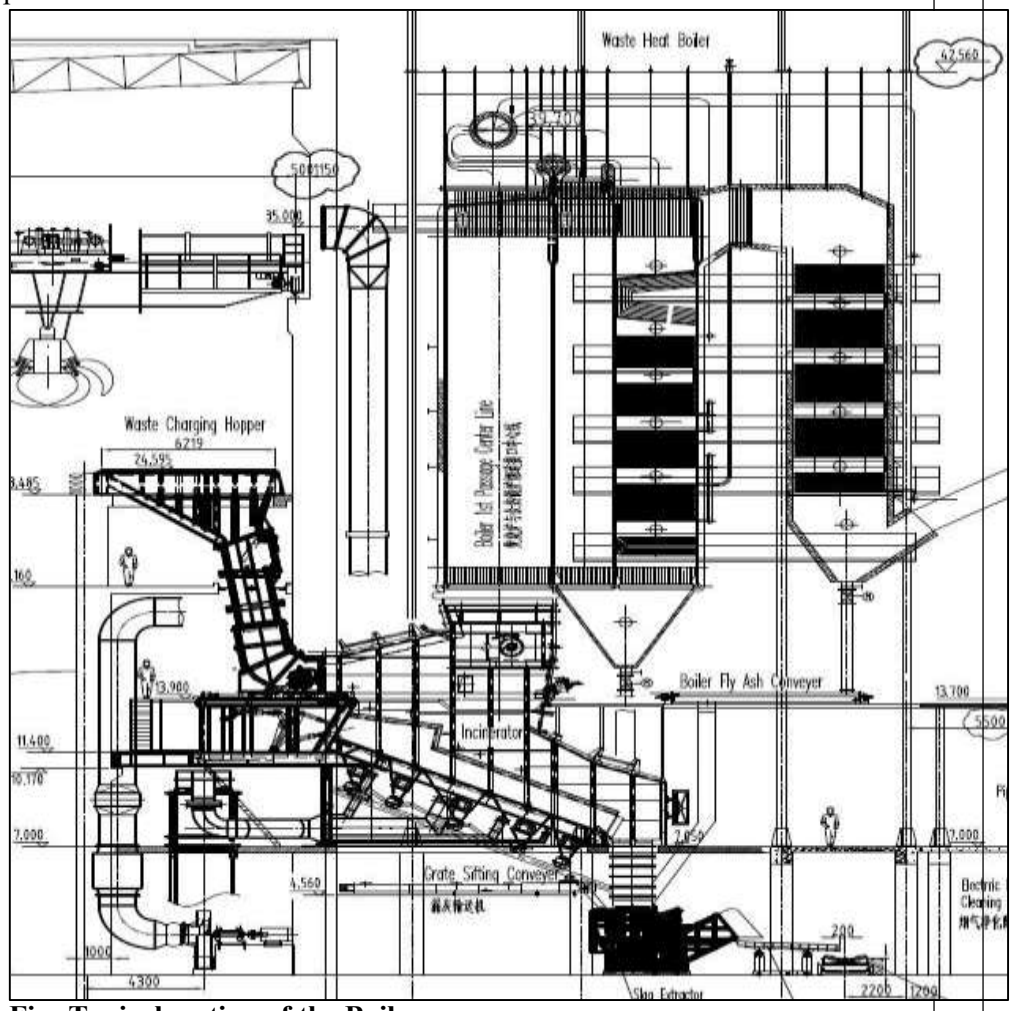

Fig: Typical section of the Boiler

Steam Generators and Auxiliaries:

The steam generator will be of Single drum, Natural circulation, balanced draft, two pass furnace design with water cooled membrane walls. Due to the nature of the SWM, all the heat transfer coils will be arranged in the third pass. The boiler will be designed for outdoor installation.

The grate will be a reciprocating step grate, which is one of the critical equipment in the steam generator system. The furnace residence time will be designed such that, the dioxin and furan emissions are within the specified limit of the pollution control board

There will be three (3) stages of super heater assembly with two (2) inter stage De-super heater, to control the super heater temperature. Economizer is considered as the back end heat recovery equipment. Following figure shows the general cross section of the boiler, starting from the fuel pit to the chimney.

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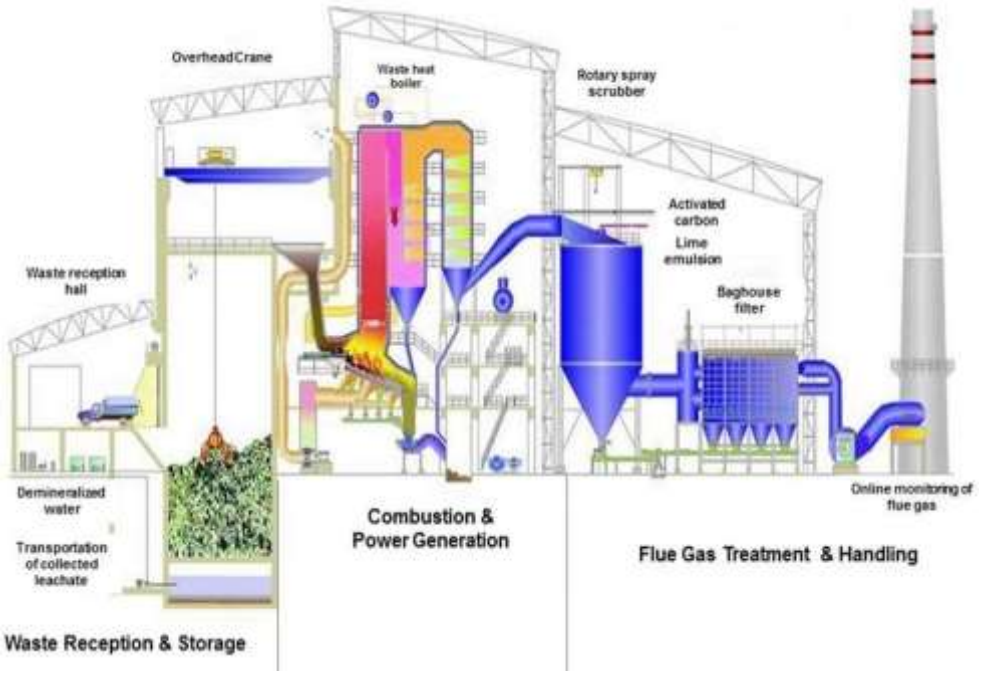

Fig: Typical arrangement of Waste to Energy Boile r

Design Parameters:

Super heater outlet pressure	:	45 bar (a)
Super heater outlet temperature	:	400 ± 5^0C
Feed water inlet Temperature	:	130^0C
Excess air Percentage	:	50 to 70
Boiler Design Code	:	IBR

SELECTION OF POLLUTION CONTROL EQUIPMENT TO CONTROL THE EMISSION (FLUE GAS CLEANING SYSTEM):

Reduction of Acid Gases:

Flue gas cleaning system is envisaged for reduction of acid gases. In this process, the adsorption agent added to the flue-gas flow is lime. Lime is used to neutralize the ac id potential in the flue gas.

Dust Removal:

The selection of gas cleaning equipment for particulat es from the flue-ga is mainly deter mined by:

- Particle load in the gas stream
- Average particle size
- Particle size distribution
- Flow rate of gas
- Flue-gas temperature
- Compatibility with other components of the en ire FGT system
- Required outlet concentrations.

Bag Filter:

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Filtration efficiencies of bag filters are very high across a wide range of particle sizes. Compatibility of the filter medium with the characteristics of the flue-gas and the dust, and the process temperature of the filter are important for effective performance.

Fig: Typical arrangement of a bag filter

The acid gas is reacted with lime and heavy metal and dioxins are absorbed by active carbo . Bag filter, used for this project as the dust emission control equipment, has collection effici encies exceeding 99% for the fuel under consideration.
All the factors will be considered for designing the flue gas treatment system technically t o meet the emission norms of SWM Rules 2016.

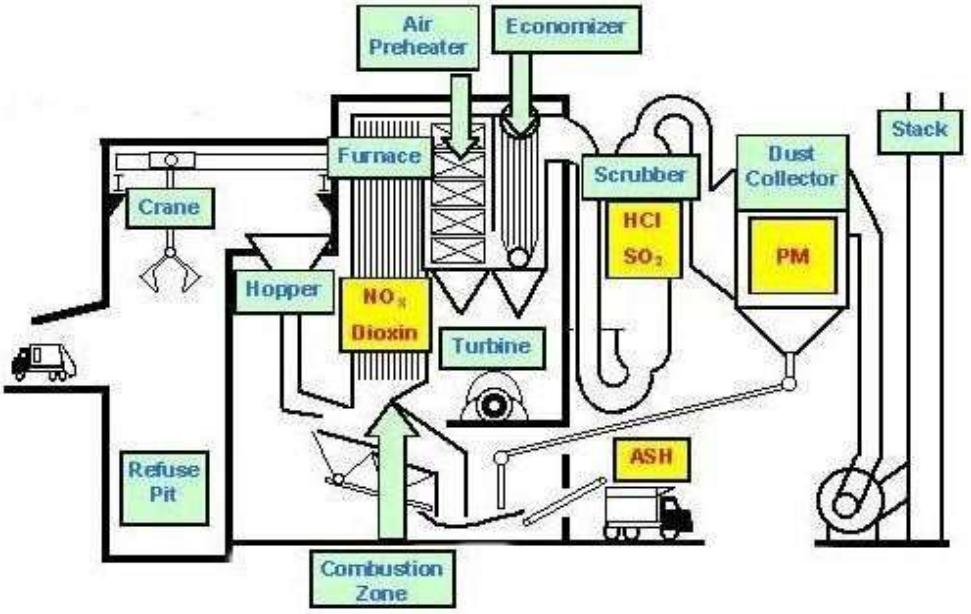

Fig: Typical representation of W2E Boiler

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Combustion Residues Handling System:

- A good system for handling of the ash from the boiler ash outlets to the disposal p int is required in order to eliminate the pollution hazard to the plant with the ash.
- The residues handling system proposed for the reciprocating grate boiler is a mech anical residues handling system. The furnace bottom residues, at high temperature, are cooled by quenching of the residue in the slag extractor system.
- The residues from other outlets like economizer, Bag filter will be at lower temper atures and hence directly fed into the screw / scrapper / dense phase system.
- Effective storage volume of fly ash storage silo shall be suitable with respect to he ash generated in the boiler. Ash silo will be provided with side sheeting (Galvalum cor ugated sheet) from silo conical portion and up to above one (1) meter level from ground to avoid dust nuisance.

Waste Handling Crane with Grab: -

- Two cranes with 3 grabs are envisaged (2 grabs connected to cranes and 1 grab as spare) for higher availability to feed the waste to the boilers. One crane is to feed the w aste to feed hoppers and other one is used for homogenous fuel in the waste pit. Howeve r, the number of Cranes can be optimized during detailed Engineering. This is only indi cative.
- The crane is remotely controlled from the Crane operators cabin located in the c ontrol room slightly higher level than the feed hopper.
- The waste grab crane is equipped with a weight measuring system to record the waste flow transported to the feed hoppers. The grab is selected based on its suitabil ity for handling the waste.

Turbo Generators and Auxiliaries: -

- The Turbo generator capacity is arrived based on the actual steam quantity avai le to generate power, with required margins to take care of the VWO conditions of the T and to meet various operating and upset conditions of the power plant.
- The turbine will be an extraction cum condensing machine. The steam required or the de-aerator and SCAPH is taken from the bleed of the turbine / Steam Drum. A CC is identified as the condensing equipment.
- The Power plant cycle will be provided with a de-aerator serving the dual purpose of de- aerating the feed water as well as heating the feed water with the bleed steam drawn through the turbine. The de-aerator considered is a fixed pressure type.
- The feed water temperature at the outlet of the de-aerator is around 130°C. The steam pressure at the turbine exhaust will be 0.16 bar(a).
- The feed water management program shall ensure the supply of good quality mak e up water to the system. In the proposed power cycle, from the steam supplied to the t bine, about 98% will come back as the condensate from the ACC to the steam ge erator, through the feed water heating system (De-aerator).
- The make up for the cycle will be added in the condensate storage tank (CST) a nd the quantity of makeup will be controlled by the CST level control system.
- The power generation will be at 11 kV level. After meeting the power plant i nternal consumption, the remaining power will be exported to the grid.

A. Design Parameters

TG Capacity (Installed)	:	36 MW – 40 MW
Turbine inlet steam pressure	:	42 bar (a)
Turbine inlet steam temperature	:	395 ± 5^0C
Number of Turbine bleeds	:	One (1)

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Exhaust Pressure	:	0.16 bar(a)
Condensing temperature	:	Wet, Saturated
Type of Condenser	:	ACC
Bleed Pressure	:	8.0 bar(a)
De-aerator outlet temperature	:	Around 130^0C
Power Factor (lagging)	:	0.80
Generation Voltage	:	11.0 kV
System Frequency	:	50 Hz + 5%

This will vary depending on the site available so as to optimize the resources to maximize the land utilization and disposal of waste to best resource utilization.

B. Air cooled Condenser

The heat sink selection should be initiated in the early stages of the project developmen t. The elements that significantly affect the selection of the heat sink option in a power plant inclu e the following:

- Availability and quality of water throughout the year.
- Change in water characteristics, due to change in ambient conditions and sea sonal variations
- Disposal of water

Once the heat sink has been selected, its performance is optimized based on historical w eather data for the wet authority and dry authority temperatures at site. Equipment design param eters such as approaches are then determined in order to achieve maximum cycle efficiency at the optimum cost.

It was proposed to install an Air cooled Condenser considering the Water availability & Water conservation. The advantage of this system is, minimal or no issues associated with blow down, disposal of water and plume formation. A typical arrangement of ACC is shown below

Air cooled condensers must be placed close to the turbine building to minimize the pressu e drop between the steam turbine and the Condenser, reducing the steam duct cost and improv ng the cycle efficiency.

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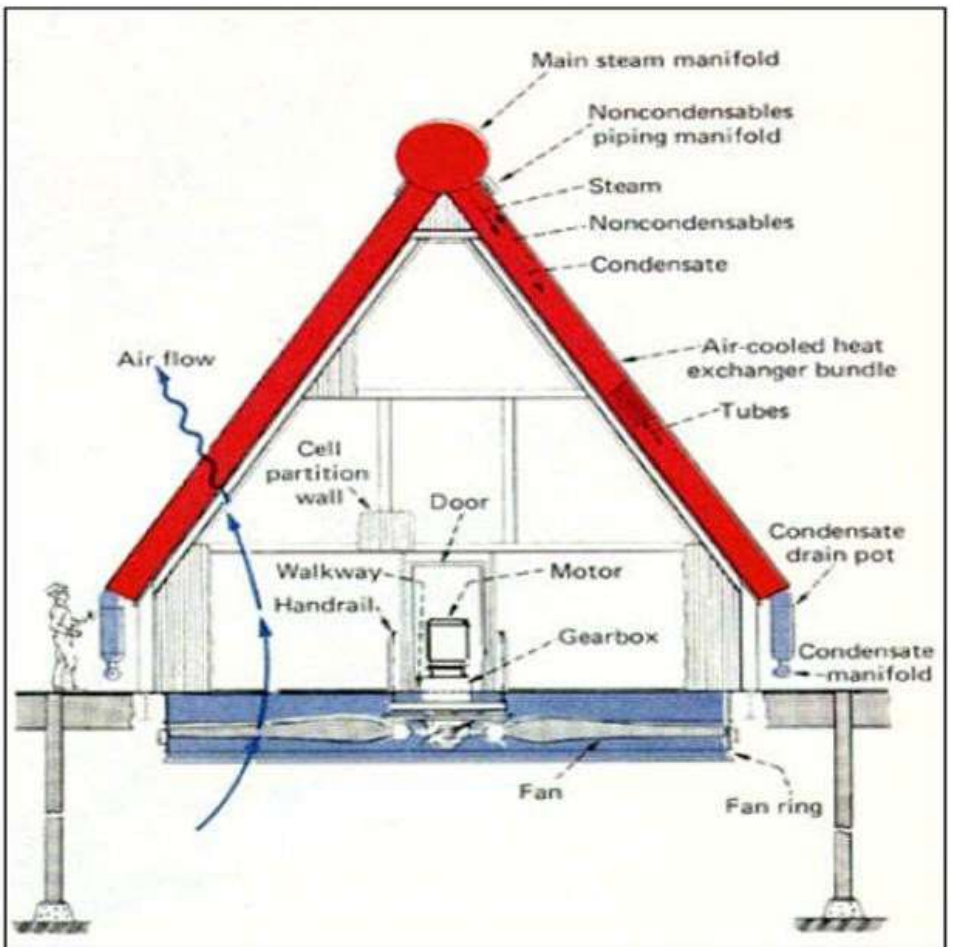

Fig: Typical Arrangement of Air cooled Steam Condenser of A- frame design

Design Parameters:

ACC Operating pressure	:	0.16 bar(a)
ACC steam temperature	:	57.8^0 C
Variation in the operating pressure	:	0.22 to 0.12 bar(a)
Number of ACC cells	:	8 appx
Number of condensate Ext. pumps	:	2x100%
Number of hot well pumps	:	2x100%

EOT Crane:

One (1) no EOT crane will be provided in the TG Hall for maintenance purposes suitable for lifting the single heaviest component of the turbo generator.

Main hook capacity of TG hall EOT crane will be selected to lift the single maximum weight of the Turbine Generator's component. Duty class of TG hall EOT crane will be M5 as per IS 177

Air Compressor Package

- Bag filters will be provided with instrument air (moisture free) to avoid choking. The capacity of the instrument air compressor & dryer will be sized accordingly.
- Type of compressor will be "Water cooled Oil free screw compressor" for instrument & service air.

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- Material of construction (MOC) of air receiver shall be SA515 Gr.70 / SA516 with corrosion allowance. Air receiver will be sized as per IS:7938.
- Capacity of instrument & Service air compressors (common compressor) for approx. 1750 N.cu.m/hr. total 2 nos. (1W+1S). Two nos. of air receivers w provided. One no. for instrument air & one no. for service air equipment.

Cooling Tower

- Since the type of condenser is air cooled (ACC), the cooling tower will be sized for the cooling water requirement of auxiliary equipment.
- Type of cooling tower will be mechanically induced draft, counter flow type, Pul FRP construction with film type fills.
- Capacity of cooling tower shall be min 550 cu.m/hr (per cell).
- Cooling tower shall be of 2 x 100% capacity (one working and one standby).

Centrifugal Pumps for Balance of Plant (BOP)

MOC of Auxiliary cooling water (ACW) pumps, cooling tower make up water (CT pumps & raw water transfer (RWT) pumps shall be as follows.

- Casing : CI FG-260
- Impeller : Bronze
- Casing wear ring : Bronze
- Shaft : Carbon Steel
- Shaft sleeve : SS 410 H
- Base plate : SA 36
- Gland Packing : Non-asbestos

MOC of DM water transfer pumps and Effluent transfer pump (ETP) shall be as fo

- Casing : CF 8M / SS 316
- Impeller : CF 8M / SS 316
- Casing wear ring : SS 316
- Shaft : SS 410 H
- Shaft sleeve : SS 410 H
- Base plate : SA 36
- Gland Packing: for DMWT & CTMW – Mech Seal

Fire Fighting System:

- The Firefighting system including Fire hydrant system, Automatic fire detecti alarm system, Portable fire extinguishers, Automatic high velocity water spray s Automatic medium velocity water spray system, Automatic gas detection and system, Remote operated water monitors (swivel type), manual operated foam sy and Sprinkler system based on required of the entire plant.
- Remote operated water monitors for SWM pit for quenching of fire.
- Automatic gas detection system will be provided for SWM pit & Leachate pit area
- Automatic addressable type Fire detection & alarm system will be provided for Ele & Instrumentation rooms.
- Portable fire extinguisher system will be provided for Electrical & instrumentation r
- Automatic Medium Velocity water spray system shall be provided for the cable ga
- Manual operated foam system and Automatic Medium velocity water spray syste shall be considered for LDO tank Fire protection system.
- The Fire Protection system for the office shall be Portable fire extinguishers.

Elevators:

Total Two (2) nos. of passenger elevators (Lift) (one for SWM crane operating cabin and f building to access various floors) will be provided.

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All the Technical specification and information specified above will be finalized during detailed engineering after award of contract.

Chimney:

Chimney for the proposed power plant will be designed as RCC structure (parallel or conical RCC type). The height of the chimney is approximately 60 meters. Design and detailing of the chimney shall be as per the recommendation of IS: 4998 & IS: 6533.
The location and detail of the sampling ports for Nox, So_x and SPM analysers shall be provided on the chimney shell as per Pollution Control Board requirements. Sampling port minimum diameter shall be 100 mm.

- The entire inside and outside surface of RCC chimney shall be painted as per International Civil Aviation Organisation (ICAO) regulations. The external surface of the RCC chimney, as per statutory regulation, shall be painted in alternative bands of red and white for aviation warning during daytime.
- Concrete shells shall be designed with M25 or higher grade of concrete of thickness varying uniformly over height.
- Aviation warning lighting systems shall conform to the requirement of the latest applicable rules of ICAO and NAA / DARA regulations. Necessary platforms and ladders shall be provided to access the same.

Electrical Systems:

- All equipment shall be suitable for rated voltage of $\pm$10% and frequency of 50 Hz with $\pm$5% variation and 10% (absolute sum) combined voltage and frequency variation.
- The generator shall be of synchronous type with brushless excitation system and shall be designed for rated voltage & frequency of 11 kV & 50 Hz, with corresponding variations of $\pm$10% and $\pm$5%. The generator shall have a closed circuit air cooled system with external water cooled circuit (CACW cooling) and the windings shall have class 'F' insulation, with temperature rise limited to class 'B' insulation limits, under specified ambient air temperatures.
- Generator protection relays with redundancy configuration shall be provided in the generator protection panels. Refer plant single line diagram for the complete protection of the generator.
- 11kV HT switchboard with incoming and outgoing feeders shall be provided for connecting the Generator, plant distribution system and also for import/export of from/to grid.
- All the auxiliaries of the power plant shall be connected at 415 V by providing distribution transformer/converter transformers. The generated power, after meeting auxiliary loads, will be exported to the grid.
- VFD shall be provided for the pumps and fan motors, ACC.
- All the VFD loads shall be connected to converter duty transformers to mitigate the harmonics generated from drives and all non VFD loads shall be connected to distribution transformers.
- Standby tariff meter (Outdoor type) shall be provided in the plant end substation for recording the power import/export from /to the state grid. This stand by tariff meter shall be used as a reference meter for the power exported/imported to/from the grid.

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- Emergency DG set shall be provided within the plant, to meet the emergency loads of the power plant. However, gird supply shall be used for power plant startup.
- The nominal voltage of the main DC system for protection & control systems, turbine emergency oil pumps and emergency lighting shall be 110 V.
- All motors shall be of energy efficient type. The windings will be insulated by class `F' insulation material and maximum rise shall be limited to class 'B' insulation limit over an ambient of 45°C.
- Earth fault current of the generator shall be limited to 50A for 10 sec.
- Earthing Transformer along with NGR panel shall be provided at 11kV system and shall be interlocked with 11kV Generator breaker. 11kV NGR of the Earthing transformer shall be switched whenever power is imported from the grid, with TG set in off condition.

Instrumental & Control System:

The Instrumentation and Control system, based on DCS philosophy, will be designed to provide monitoring and control capabilities to ensure safe and reliable operation, minimize operator manual actions and alert operators on any conditions or situations requiring manual intervention in a timely manner. The control functions shall be backed up by interlocks and safety systems which cause pre-planned actions like tripping or sequential shut down of equipment during situations where unsafe conditions develop faster than the controls or the operator's reaction time. All I&C equipment will be of proven design and will be selected to achieve the highest level of plant availability and facilitate equipment maintenance.

Signals of various process parameters shall be electrical signals generated by field mounted electronic smart type transmitters. The above signals will be processed in the DCS to produce electrical signal outputs, which will control the final actuators through converters. All computation, signal conditioning and control function generation will be done in the DCS.

Balance of Plant Design Conditions will be finalized by the Concessnaire During Detailed Engineering at the time of Project Establishment.

The modern sanitary landfill is considerably more than just a landfill or an open dump. This is because waste materials in the sanitary landfill are treated in a more controlled manner in order to protect the quality of groundwater in the vicinity. Lighter materials are deposited near the bottom of the sanitary landfill, where the majority of dangerous substances are buried, safeguarding the surrounding ecosystem. Approximately 37% of waste is disposed of globally in a landfill, with 8% of that going to sanitary landfills with landfill gas collection systems.

The overall objective of the landfill will be to minimize the impacts on the environment such as prevention of pollution of groundwater, control of odour, restricting the generation of leachate through well controlled operational techniques. Performance standards for landfill operations are listed below and the same would be complied by us during the operations period

Operation Monitoring- Landfill

The consortium has in-house expertise in designing, operation and maintenance of landfill operations for hazardous waste and Municipal Solid Waste rejects after processing. Further the consortium has a specific technical tie up with various international landfill material suppliers for supply of geo membrane and other critical components for landfill construction. The consortium has pioneering experience in the field of land filling and stringent in-house standards are developed for effective implementation of QA procedures.

For reference purpose only

Landfill monitoring is critical to the operation of a landfill. The commonly monitored para mete rs are:

1. Leachate head on liner
2. Leakage through the landfill liner
3. Ground Water quality
4. Ambient air quality (to ensure compliance with the standards)
5. Stability of final cover

Rejects disposal to landfill

- Layer of waste or rejects shall be of 300 mm thick and should be compacted to at least 2/3rd of thickness
- Daily cover shall be of 10 cm using C & D Debris or fine gravel etc.

The compliance of performance standards shall always conform to SWM Rules 2016.

Ground water Quality in the monitoring wells

COD and BOD are not to exceed 5% of the baseline values. There should not be any sig ifica nt change in the parameters like Colour, TDS and Electrical Conductivity with respect to the b seli ne conditions.

Table 1 Groundwater standards

Sl. NO.	PARAMETER	STANDARD	UNI	S
1	Arsenic	0.02	mg/l	
2	Cadmium	0.01	mg/l	
3	Chromium	0.05	mg/l	
4	Copper	0.005	mg/l	
5	Cyanide	0.05	mg/l	
6	Lead	0.05	mg/l	
7	Mercury	0.001	mg/l	
8	Nickel	-		
9	Nitrate as NO_3	10.0	mg/l	
10	pH	6.5-8.5		
11	Iron	0.3		
12	Dissolved solids	500	mg/l	
13	Chlorides	250	mg/l	
14	Sulphate (as CO_3)	200	mg/l	
15	Zinc	5.0		
16	Phenolic Compounds (as C_6H_5OH)	0.001	mg/l	
17	Total hardness (as $CaCO_3$)	250 or lower	mg/l	

Odour

- Foul odour should not emanate outside the boundary of the site
- The concentration of gases like Carbon monoxide and methane shall compl y wi th prescribed standards in the SWM Rules 2016

Environmental Standards

The ambient air quality parameters are prescribed for Solid waste management projects whe e SWM is processed. The applicable standards are reproduced briefly hereunder. A full-f ledged Environment, Health & Safety (EHS) department will be in place for compliance wi th t he standards as prescribed in this regard.

In order to ensure the optimal performance of the landfill site, checking the Environ n en al pollution and complying with the regulatory requirements is essential. The foll owi ng environmental parameters shall be monitored on a regular basis.

For reference purpose only

- Quality of Leachate after Treatment
- Surface Water Quality
- Ground Water Quality
- Quantity and Quality of Gas Generated
- Ambient Air Quality

The above parameters shall be monitored as per the standards stipulated in SWM Rules (Management & Handling) 2016.

The number of samples and location specifications for monitoring are furnished in the foll owing table

Table 2 SAMPLING SPECIFICATIONS FOR ENVIRONMENTAL MONITORING

DESCRIPTION	SAMPLING SPECIFICATIONS
Quality of Leachate after Treatment	One grab Sampling at outlet of the treatment plant every m onth
Surface Water Quality	One grab sample at the upstream side and one grab sam ple a the downstream side for water bodies near the landfill site every month
Ground Water Quality	One sample at the upstream side and three samples a t th downstream side of the landfill site every month
Quantity and Quality of Gas Generated	24-hour continuous stack monitoring at the selected ven t o every month
Ambient Air Quality	48 hours continuous ambient air quality monitoring at on location in upwind and three locations in downwind direc tions every month

The leachate quality after treatment should meet the standards recommended by MoE F in Municipal Solid Waste (Management and Handling) Rules, 2016 and Presented in th table below:

Table 3 DISPOSAL STANDARDS FOR TREATED LEACHATE

S.NO	PARAMETER	STANDARDS (MODE OF DISPOSAL)		
		INLAND SURFACE WATER	PUBLIC SEWERS	LAND DISPOSA
1	Suspended solids, mg/1, Max	100	600	200
2	Dissolved solids (inorganic) mg/1	2100	2100	2100
3	pH	5.5 to 9.0	5.5 to 9.0	5.5 to 9.0
4	Ammoniacal nitrogen (as N), mg/1	50	50	-
5	Total Kjeldahl nitrogen as N,mg/1	100	-	-

For reference purpose only

6	BOD in mg/1 (3 days @ 27°C)	30	350	100	
7	Chemical oxygen demand, mg/1	250	-	-	
8	Arsenic (as As), mg/1 max	0.2	0.2	0.2	
9	Mercury (as Hg) mg/1, max	0.01	0.01		
10	Lead (as Pb), mg/1, max	0.1	1.0		
11	Cadmium (as Cd) mg/1 max	2.0	1.0		
12	Total chromium as Cr, mg/1	2.0	2.0		
13	Copper as Cu, mg/1	3.0	3.0		
14	Zinc A as Zn, mg/1	5.0	15		
15	Nickel as Ni, mg/1	3.0	3.0		
16	Cyanide as CN, mg/1	0.2	2.0	0.2	
17	Chloride as CI, mg/1	1000	1000	600	
18	Fluoride as F, mg/1	2.0	1.5	-	
19	Phenolic compounds (C_6H_5OH) mg/1	1.0	5.0	-	

The groundwater quality within 50 m of the periphery of landfill site shall be periodica ly (as presented in the above table). Usage of groundwater in and around the landfill site for any rpo se (including drinking and irrigation) is to be considered after ensuring its quality. The mon toring results of surface and groundwater quality shall meet the drinking water quality standa ds as presented in the table below.

Table 4 WATER QUALITY STANDARDS FOR SURFACE AND GROUND W TER QUALITY MONITORING

S.NO	PARAMETER	IS 10500: 1991 DESIRABLE LIMIT
1	Arsenic, mg/1	0.05
2	Cadmium (as Cd) mg/1	0.01
3	Chromium, mg/l	0.05
4	Copper as Cu, mg/1	0.05
5	Cyanide as CN, mg/1	0.05
6	Lead (as Pb), mg/1,	0.05
7	Mercury (as Hg) mg/1	0.001
8	Nickel as Ni, mg/1	-
9	Nitrate as NO, mg/l	45
10	pH	6.5 – 8.5
11	Iron, mg/l	0.3
12	Total Hardness (as $CaCO_3$), mg/l	300
13	Chloride as CI, mg/1	250
14	Dissolved solids, mg/1	500
15	Phenolic compounds (as C_6H_5OH), mg/1	0.001
16	Zinc A as Zn, mg/1	5
17	Sulphate (as SO_4), mg/l	200

For reference purpose only

Ambient air quality at the landfill site and at the vicinity shall be monitored as per the frequency given above to meet the prescribed standards as presented in the following table;

Table 5 AMBIENT AIR QUALITY STANDARDS

SL. NO	PARAMETERS	ACCEPTABLE LEVELS
1.	Sulfur dioxide	120 ⌈g/m ^{3} (24 hours)
2.	Suspended particulate matter	500 ⌈g/m ^{3} (24 hours)
3.	Methane	δ 25 % of the lower explosive limit(650 mg/m^3)
4.	Ammonia (24 hour average)	0.4 mg/m^3 (400 ⌈g/m ^{3})
5.	Carbon Monoxide	1-hour average: 2 mg/m^3 8 hour average: 1 mg/m^3

This schedule provides description of minimum technical specifications for various equipment expected to be used by the Concessionaire for execution of the project activity. The Concessionaire shall ensure that the technical specifications of the equipment to be used for the project should at least meet these technical specifications:

2. Conveyor with Dual Trommel: -

Feeder Conveyor (Preparatory Section)

Type: Chain Belt "Z" type conveyor with UHMW liners

Input: Digested Organic Waste

Output: Digested Organic Waste

Purpose: Feeding of digested city garbage

Power: Through Hydraulic Power Pack

Chain: Heavy Duty Steel Fabricated Roller Chain

Belt: Heavy Duty NR belt M 24 grade 3 ply 8 mm

Drive: Through Hydraulic Motor

Support: Steel Fabricated

Fabrication: Out of heavy rolled sections as

ISMC 100, 75, ISA 50, 45 along with .12 & 14 SWG sections

Dimension: 900 x 8000

For reference purpose only

Dual Trommel

Type: Shaft less Rotary Screen

Input: Digested organic waste

Output: Material having oversize < 4 mm

Purpose: To screen out oversized inert & undigested materials

Power: Through Hydraulic power pack

Drive: Friction drive

Support: Steel fabricated

Fabrication: Main drum with lifters fabricated out of 10 mm thick HRC sheet with heavy duty angular reinforcement. Perforated screen with 25 mm holes fabricated out of 3 mm plate**.**

Dimension: 2000×5800

Feeder Conveyor of Refinement Section

Type: Chain Belt "Z" type conveyor with UHMW liners

Input: Fully digested and cured material having -16 /4 mm size

Output: Fully digested and cured material having -16/4 mm size

Purpose: Feeding of semi-finished compost for refinement

Power: Through electric power

Chain: Heavy duty steel fabricated roller chain

Belt: Heavy duty NR belt M 24 grade 3 ply 8 mm

Drive: Through electric motor, 2 HP, TEFC

Support: Steel fabricated

Fabrication: Out of heavy rolled sections as ISMC 100, 75, ISA 50, 45 along with 12 & 14 SWG sections

Dimension: 900×8000

For reference purpose only

Gravity Separator **Type:** Gravity Separator **Capacity:** Matching **Input:** Digested screened material below 4 mm size **Output:** Digested screened material below 4 mm size and free from heavy impurities such as sand, gravel etc. **Purpose:** To remove out heavy impurities such as sand, gravel etc **Power:** Through electric power **Drive:** Through electric motor, 3 HP & 2 HP, TEFC **Support :** Steel fabricated
Fabrication: Heavy base plate & links, out of heavy rolled sections as ISMC 75, ISA 50, 45 along with 12 & 14 SWG sections etc. **Dimension:** 1500× 900×1600
Aspirator Separator
Type: Centrifugal flow type with high efficiency cyclone **Capacity:** Matching **Input:** Fine dusty material from gravity separator **Output:** Fine dusty material **Purpose:** To entrap dusty material from gravity separator **Power:** Through electric power **Drive:** Through electric motor, 3 HP & 2 HP, TEFC **Support:** Steel fabricated **Fabrication:** sheet 12 & 14 SWG, out of heavy rolled sections as ISMC 75, ISA 50. Fan casing with anti-corrosion liners.

4. Excavator cum Loader: -

1	**General Descriptions**
	General: The Excavator Cum loader should be rugged and durable, and designed for ease of maneuverability and proper distribution of loader, and axle induced stresses. The frame/chassis should be either fully welded or rigidly bolted to achieve this, in accordance with the manufacturer's standard procedures. It should be suitable for working under adverse site conditions, and the powertrain should be designed for this purpose as 4 wheel drive.
2	**Basic Specification**
A	**Type:** Loader complete with 1.0m^3 front end loader bucket rear backhoe excavator with preferably. 0.3 m^3 bucket and minimum dump height of 2.6 m.

For reference purpose only

B	**Structure:** Rugged, durable and designed for durability and proper distribution of induced stresses.
C	**Engine:** Fuel efficient, 4 stroke, 4-cylinder, water cooled diesel engine. Minimum Gross Horsepower Rating : 76 HP (54 KW) at manufacturer's rated RPM
D	**Drive Train:** 4 wheel drive.
E	**Transmission:** Compact, fully synchromesh, with 4 speeds forward and 2 speed reverse.
F	**Differential and Axles:** The differential should be heavy duty, designed for use under severe operating conditions. The axles should be designed to withstand severe duty conditions at loading sites, and to perform continuous loading cycles with excellent maneuverability. The rear axle should be a rigidly mounted heavy duty drive axle, with torque proportioning differential for 2 wheel drive units. The front axle should be a heavy duty oscillating steer axle.
G	**Steering:** Full power, front wheel hydrostatic power steering with manual capability in the event of engine or hydraulic power failure.
H	**Brakes:** Main brakes. Self-adjusting, oil immersed, multi-disk, hydraulically actuated with independent left and right brake pedals. Parking brake: Hand operated.
I	**Hydraulic system:** Engine driven hydraulic pump with hydraulic tank mounted so as to ensure constant oil flow to the pump. System should be equipped with easily visible level read-out gauge and replaceable filter cartridge elements. System should operate at adequate pressure and flow at 2200 RPM.
J	**Electrical System:** 12 volt system with battery and alternator. Weather Protection, Water Proof and dust proof with heavy duty harness headLights. Front Working Lights: 2 halogen lamps. Rear Working Lights: 2 halogen lamps. Tail Light/Brake Lights: 2 each at rear end. Turn Signal Lights: 2 front 2 rear. Emergency Signal Flasher: 4-way. Reverse Alarm : 1 Number Plate Illuminators: Front and rear.
K	**Tyres:** Heavy duty for earth moving machines of suitable size as per manufacturer's standard.
L	**Operator's Cabin:** All steel welded safety cab conforming to Roll Over Protection (ROP) and Fall Over Object Protection (FOP) with safety glass mounted on rubber pads to eliminate machine vibrations. Accessible from both sides. **Interior:** Designed for ease of operation without undue fatigue. Features should include suspension seats, all-round visibility, easy-to-reach controls, rear view mirror, interior light, front windshield wiper and horn. **Controls:** Throttle, independent left and right foot brake pedals, parking brake, transmission disconnect pedal, hydraulic control levers, steering wheel, gear shift lever, turn signals, flasher, etc. **Instruments:** Bright read-out front and back consoles which include tachometer, hour meter, engine oil pressure gauge, fuel gauge, water temperature gauge, parking brake indicator, headlight indicator, alternator "no-charge" condition, etc. Audio-visual alarms for oil pressure, oil temperature, transmission oil temperature, transmission oil pressure, main battery etc.

For reference purpose only

M	**Loader Bucket:** Standard bottom dump clam 6 in one bucket suitable for dozing, digging, grading, filling, grabbing and loading capacity should be nominal 1.0 m^3.
N	**Backhoe Bucket:** Standard excavator type backhoe bucket suitable for digging, loading, dozing, grading, filling and grabbing. Size shall be nominal 750 mm width with preferably 0.3m^3 capacity.
O	**Capacity:** Max Digging depth (not less than 4.50M.) Break out forces from excavator bucket cylinder (not less than 5500 kg.) Break out forces from the excavator Arm cylinder (not less than 3000 kg.) Breakout forces from loader bucket cylinder (not less than 6000kgf.) Breakout forces from loader Arm (not less than 5000 kg.)
P	**Painting and Lettering:** Paint Process and Paint should be superior quality to ensure long lasting structure resistance to rust, weathering and breakage. Color shade should be the Purchaser's choice selected from the standard colors offered by the Supplier. The bidder should get the colouring paint/ name & slogan writing approved from the purchaser.
Q	**The Manufacturer/Supplier should provide following with each vehicle :** Manufacturer's standard tools for maintenance with lockable security boxes. Operator's manual Workshop and service manual Spare parts catalogue Technical details, drawing and operation manual Warranty card for one year Battery warranty card for 1 year
R	**Warning System and Essential Accessories:** Digital Hour meter; tachometer; Fuel gauge; water temperature gauge; Engine oil pressure gauge with warning light Ammeter supported with warning light Horn- 2 pieces; External rear view mirrors Radiator protection grill; Head and tail lights, cabin lights, reversing light and traffic indicator; Spare front & rear (one each) wheel with tyre and inner tube; Jack and wheel wrench; Anti-theft steering lock; Full power front wheel hydrostatic power steering with manual capability; Seat belt, front screen wiper, hazard warning system and helper seat; Speedometer; Radio of standard make.

8. Weighbridge 50 MT Capacity:

1. Machine
Type: Static, fully electronic, load cell based. pit less fully floating design **Capacity:** 50 MT with least count of 5 Kg **Platform size:** 12000 × 3000 mm with necessary ramps **Steel Structure:** The steel structure should be based on bidders own design. Top of the structure should be of 12 mm thick MS sheet with adequate design having anti-skid surface.
2. Load Cells Details

For reference purpose only

No. of Load Cells: 06
Type: GD Rocker Pin Design with Hexagonal End Counterforce (Load Pin) for Anti-Rotation **Output:** digital with response time of digitizer 0.1 second
Accuracy: OIML, 10000d Class III –L, viz.; 0.010% of Rated Capacity Rated
Output Sensitivity: 2 mV/V
Output Update: 10 reading per second
Non Linearity: < +/- 0.017 % of Rated
Output No Repeatability: < +/- 0.010% of Rated Output
Overload Rating: > 300% of Rated Capacity
Protection Class: Min. IP 68 (submerged in water at 1.5m. depth for 10,000 hrs.

3. Electronic Display Unit

A	**Type of Display :** Min. Dual Display, Vacuum Fluorescent, 7 digits
B	**Key Board:** 24 Position Membrane type, Tactile Feel 0 – 9 Keys Scale Function Keys Vehicle Management Software Function Keys
C	**Heights of Display :** 24 mm
D	**Date and Time :** Automatic calendar clock should be provided with the indicator with battery backup so that the time, date etc., does not change in case of failure of power
E	**Tare :** 100%
F	**Indicator :** 8142 PRO + Terminal
G	**Standard Interface:** 2 Nos. RS232, 1No Rs422/485 1No. CL 0-20 ma 1 No. Parallel Centronics Interface Host Interface
H	**Password Protection:** should be available
I	**Inbuilt Vehicle Management Software:** Stores Min.1000 transaction & 500 Trucks ID Daily Report Min.4 Print Ticket Format Truck ID, Client ID, Cargo ID
J	**Memory Capacity:** Min. Program Memory 64K Min. Data Memory 32K
K	**Scale Functions:** Push Button Tare Keyboard Tare Tare interlock, Automatic Tare & Clear Function Centre of Zero indications Auto Zero maintenance Motion Detection & indication Expanded Weight Display Real-time Clock by Battery Backup
L	**Calibration:** Through software only with Hardware & Software Protection facility.

3. General

Fully electronic with P IV computer, colored monitor 15", 80 column matrix printer, communication, necessary software as per the requirement, additional remote display unit, 5 KVA UPS with 8 hour battery backup.

4. Civil Works

All civil works for installation of weighbridge such as foundation, ramps etc. except weighing record room shall be done by the supplier within the quoted price certified by Independent Engineer.

5. Warranty

The equipment should have a minimum warranty of one or three year including the warranty for load cells.

6. Stamping

For reference purpose only

The supplier will get the stamping done of the weighbridge from the Weights & Measure department of Government of West Bengal/, initially as well as every year during the warranty period. The cost of calibration shall be borne by the Concessionaire.

Overall length:	5375 mm
Width:	2140 mm
Loading platform area:	7.5 sq.
m. Loading capacity:	3.2 MT
Eng. BHP:	71

9. Dead Animal Pick Up Van

Trommels and Conveyors: -

Components		**Technical Specifications**
Trommels	**Main Structure**	*Plate 10 mm ISMC 150, 100, 75 Etc. as per IS 801.*
	Dust covers (Screen)	*Anti-Corrosion Alloy Steel with up to 120mm punch*
	Material of Construction	*Steel plates & Structural –IS:2062, Tensile Strength – 299,UTS – 45*
	Bearings	*NTN, Heavy duty sealed bearing, maintenance free*
	Motor	*LSHT Hydraulic (SAI), 500 cc RP motor*
	Drive	*Friction Drive*
Conveyors	**Main structure**	*Plate 10 mm ISMC 100, 75, ISA 50 etc.*
	Material of Construction	*Steel plates & Structural – IS : 2062, Tensile Strength – 299,UTS – 45*
	Bearings	*NTN, Heavy duty sealed bearing, maintenance free*
	Motor	*LSHT Hydraulic (SAI / EATON)*
	Gear Box	*Bonfiglioli, Elecon*
	Chain	*Bushed & Roller chain (MVM76 mm & 62.5 mm pitch double stand transmit positive power, 98% efficiency for all working loads under well lubricated condition.*
	Drive	*WGR / Shaft mount SGR*
	Belt	*Tension based on IS 11592/CEMA Three Ply Nylon Belt (2mm Rubber & Bottom 1.5 mm Thick Rubber Coating 3 ply means three-liner sheet joined together*
Paint	**Drive**	*Electric*
	Cleaning	*Chemical / Abrasive*
	Primer	*Epoxy Paint*
	Top Coat	*Enamel Paint*

For reference purpose only

All design parameters of all processing plants must meet the industrial establishment norms, in addition to standard design norms of Mechanical, Electrical, civil, HVAC, BIS, IS codes, Power Transmission norms and any other standards if not available in these standards. Selection of the design at the discretion of the concessionaire, however the prior approvals from the authority is required.

For reference purpose only

SCHEDULE 24 - GENERAL TECHNICAL SPECIFICATION FOR VEHICLES

(As and where required)

1. BOV Bins:

Sl. No.	Description	Specification
1	Bin Top O.D	Dia 470 mm
2	Bin Top I.D	Dia 420 mm
3	Bottom O.D	Dia 352 mm
4	Bottom I.D	Dia 347.50 mm
5	Height O.D	535 mm
6	Height I.D	527 mm
7	Volume	60 Liter
8	Lid O.D.	Dia 480 mm X 75 mm Height
9	Tolerance All Dimension	+/ - 2 mm
10	Raw Material	HDPE
11	Load Bearing Capacity	Approx. 30 – 35 Kgs

2. Community Bins (1.1 m3):

Sl. No.	Description	No's
1	SIDE GI SHEET 2 MM THK	4
2	TOP GI SQUARE PIPE 32 X 32 X 2 MM	4
3	BOTTOM GI SHEET 2 MM THK	1
4	WHEEL BRACKET GI SHEET 3 MM THK SIZE	2
5	HANDLES MS ROUND 16 MM	2
6	LIFTING PINS MS ROUND 36 MM	2
7	MS WASHER DIA 70 MM	2
8	BOTTOM HOLES 12 DIA	4
9	200MM NYLON WHEELS WITH 5MM BRACKET	4
10	SIDE LIFTING ROD SHEET 3 MM THK	2
11	TOP LID 1.2 MM SHEET	1
12	TOP LID HINGES 50 X 50 MM	3
13	TOP LID HANDLE 12 MM	1

For reference purpose only

3. 16 Cum. Compactor Bins:

1	**BODY (Shell)**	
a	**Side**	**ST 52 /IS 2062 E350 GRADE SHEET,**
b	**Roof**	**ST 52 / IS 2062 E350 GRADE SHEET**
c	**Flooring**	**ST 52 / IS 2062 E350 GRADE SHEET**
d	**Rails**	**I BEAM 175X85**
e	**Flooring Cross Member**	**PRESSED SECTION**
2	**HEAD(Compaction Chamber)**	
a	**Side**	**ST 52 / IS 2062 E350 GRADE SHEET**
b	**Flooring**	**8MM HARDOX/QUARD 450/400 GRADE SHEET**
3	**EJECTOR**	
a	**Front Plate**	**ST 52 /IS 2062 E350 GRADE SHEET**
4	**Body Shape**	**Square in shape with stiffeners on side &top to reduce to reduce material stress and avoid deformation due**
5	**Body design**	**Taper in length wise for proper compaction**
6	**Body Volume in Cum**	**16 cum**
7	**System of bin Loading**	**Front Loading with Pin-Gear drive mechanism**
8	**No. of Hyd Cylinders for bin lifting**	**2nos**
9	**Compaction density t/Cum**	**0.85**
10	**Pressure (BAR)**	**180-240 BAR**
11	**Power (kW)**	**7.5kW**
12	**Electric Motor (V)**	**3 phase 415V AC,50Hz**

For reference purpose only

4. Battery Operated Vehicle (BOV):

Variant	**Pickup**
Vehicle category	**e-cart**
Payload – kg	**348**
Volume	**NA**
Vehicle Dimensions & Weight	
Dimensions – Length x Width x Height – mm	**2794 x 996 x 1765**
Wheelbase – mm	**2166**
Ground clearance – mm (Un laden)	**133**
Wheel track – mm	**835**
Turning radius – m	**3.75**
Vehicle kerb weight – kg	**317**
Vehicle GVW – kg	**665**
Cargo Tray Size – Length x Width x Height (inside dimensions) – mm	**1273 x 923 x 278**
DV Box Size – Length x Width x Height (inside dimensions) – mm	**NA**
Flat Bed Size – Length x Width x Height (inside dimensions) – mm	**NA**
Performance	
Top Speed – km/h	**24.5**
Certified Range – km	**115**
Typical Driving range – km	**80**
Grade ability – degree	**7**
Battery	
Battery type, Voltage – V	**Lithium-ion, 48 V**
Battery capacity (installed) – kWh	**3.69**
Charging time at standard conditions	**2h 30 min**
Drivetrain	
Peak power – kW	**1.95**
Peak torque – Nm	**22**
Transmission type	**Rigid Axle with Motor**
Suspension & Brakes	
Suspension – Front	**Helical Spring & Hydraulic Shock Absorber**
Suspension – Rear	**Leaf Spring with Shock Absorber**
Brakes – Front/Rear	**Mechanical Brakes**
Parking brake	**Mechanical lever type**
Feature	
Windscreen & wiping system	✓
Spare wheel provision	✓
Driving modes – FNR (Forward, Neutral, Reverse)	✓
Economy & boost mode	✓
Lockable glove box	✓
12 V socket	✓
Telematics unit & GPS	**Optional**
15 A off board charger	**Optional**
Hazard indicator	✓
Reverse buzzer	**Optional**

For reference purpose only

Warranty	**3**

5. Auto Tipper with hopper fabrication

LMV (Auto Tipper chassis 2.1 GVW)

LMV Vehicle		
Sl. No	**Description**	**Specification**
1	Engine	2 Cylinders, 798 cc DI Engine
2	Max Engine Output	33 kW @ 3 750 r/min (44.25 hp.)
3	Max Torque	110 Nm @ 1 750-2 500 r/min
4	Max GVW	2120 kg
5	Payload	1000 kg
6	Overall Length	4282 mm
7	Wheelbase	2250 mm
8	Ground Clearance	175 mm
10	Min TCR	4.75 mts.
11	Steering	Type Electronic power assisted steering
12	Front Suspension	Parabolic Leaf Springs
13	Rear Suspension	Suspension Rear Semi-elliptical leaf springs
14	Front Brake	Front Hydraulic disc brake
15	Rear Brake	Rear Drum 254 mm dia. Rear with LCRV
16	Tyres	Tyre size 165 R14 8PR Size
17	Tank Capacity	Diesel Tank 35 L
18	DEF	10.5 Lts.
19	Seating Capacity	D+2

2.3 m^3 Hopper

Hopper Volume	2.3 m^3
Tipping Type	Hydraulic Tipping
Number of Cylinders for Tipping	1
Power Pack Spec	12v DC, Pressure 120 Bar
Power Pack Make	Dantal / Wipro
Hydraulic Cylinder Make	Dantal / Wipro
MOC	MS (IS2062)
Side Wall Thickness	1.6 mm (MS)
Bottom Sheet Thickness	2 mm (MS)
Box Section Thickness	2.5 mm (MS)
Hydraulic Tank Capacity	10 Liters
Painting	2 Coats of High-Quality Primer and 2 Coats of Enamel Paint on the outside and 2 Coats of Epoxy Paint inside of the tipper body.
Hazardous Waste Buckets	2 Nos - 20 L on each side (Red and Black)

6. 14 Cum. Compactors

Chassis Requirements:

1	Manufacturer/Model	Reputed Manufacturers like Ashok Leyland/TATA/Eicher/Bharatbenz etc
2	GVW	Min.16T
3	Max Power	180HP
4	Wheelbase	4350mm

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5	Pump and PTO mounting	Directly coupled without any intermediate shaft

Note: All parameters of all processing plants and its vehicles must meet standard design norms of Mechanical, Electrical, Manufacturers specifications BIS, IS codes, RTO Norms, Bharat Stage Emission norms, Automotive Industry Standards (AIS), Emission standards as per the BSE norms and any other standards if not available in these standards also must meet.

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SCHEDULE 25 - ENVIRONMENTAL SAFEGUARDS

Introduction

The environmental safeguard requirements and measures listed in this Schedule apply to all towns and project components including ISWM facility, Facilities, vehicles / equipment, etc., as proposed under the project, areas as described in Schedule 1.

The Concessionaire shall implement and operate the project in accordance with the following standards/references on environmental regulation and safeguards:

1. Municipal Solid Waste (Management and Handling) Rules, 2000/2016
2. *Draft* Solid Waste (Management and Handling) Rules, 2013 (if applicable at the time of bidding)
3. Relevant requirements/clearances of the Karnataka State Pollution Control Board (KSPCB)
4. Other applicable environmental regulation at the National, State and Local Level
5. Following International Finance Corporation (IFC) Performance Standards, 2012 (as required by DFID Environmental Policy and Safeguards)
    a. Performance Standard 1: Assessment and Management of Environmental Risks and Impacts
    b. Performance Standard 3: Resource Efficiency and Pollution Prevention
    c. Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
    d. Performance Standard 8: Cultural Heritage
6. IFC general EHS Guidelines and MSW Sector Guidelines (these requirements have been presented later in this document).

The Concessionaire may consider subscription to management standards such as ISO 14001 or OHSAS 18001 to better address the environmental and health & safety safeguards and compliance for site construction and management.

Environmental Statutory Compliance and Key Responsibilities

As per the national environmental regulation applicable in India, the Table 1 below specifies the key statutory requirements and primary responsibilities for ensuring compliance in the ISWM facility.

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Table 1 Responsibility Allocation for Environmental Statutory Requirements: -

Sl. No.	Regulatory Requirement	Primary Responsibility
1.	Seeking and Renewing Authorization from Karnataka State PCB under applicable MSW Rules	Concessionaire
2.	Develop ToR and approve from SEIAA, Appointment of Consultant, Conduct of EIA and ensure Environmental Clearance from SEIAA:	Concessionaire
3.	Consent to Establish and Operate under the Air and Water Acts, and subsequent renewals from Karnataka State PCB:	Concessionaire
4.	Post EC Monitoring Report to State PCB/Authority	Concessionaire
5.	Annual Report to State PCB	Concessionaire
6.	Annual Report to Karnataka State PCB	Concessionaire
7.	Accident Reporting as per MSW Rules	Concessionaire

(Note: [Deleted]

Where the primary responsibility of a statutory compliance is with the Concessionaire, the Authority for respective locations will facilitate as necessary and provide relevant support to the Concessionaire in seeking / fulfilling above statutes.

While planning, designing and operating the ISWM facility, care should be taken to address the following aspects:

Clean-up of existing solid waste dump sites in all the towns in the ISWM Project so that this waste is also picked up and processed / disposed suitably at one of the ISWM facilities in the project or one of its components Proper capping / restoration of these dump sites (as applicable) as per provisions of MSW rules should be factored in the design and planning of the ISWM Project

The proposed sites where some solid waste exists as on date should be carefully studied for facility planning (including aspects such as natural drainage, topography etc.) and related infrastructure so as to accommodate space for dumping of existing solid waste, while constructing an engineered landfill area for sound disposal Access roads and pathways to reach the site should be considered and provide by the Authority to concessionaire for assessing environmental impacts and planning mitigation.

Maintaining proper buffer distance to the landfill site (as per applicable regulation and guidance from SEIAA) should be considered while planning so as to minimize impacts on surrounding land use Possibility of leachate leakages to downstream areas (nullahs, culverts or groundwater) around the site and possible mitigation measures should be addressed Suitable environmental monitoring programmes should be included in the operational plan

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by the bidders so that environmental compliance and risks could be monitored and eliminated / mitigated over the life of the project. After getting the clearance for development of the project, no habitation and water bodies shall be developed surrounding the facility as per the CPCB guidelines and MSW rules.

Environmental Safeguard Measures to be adopted for Construction Phase:-

Table 2 below presents generic guidelines on environmental safeguards to be followed during the construction phase of the ISWM project.

Table 2 Guidelines for Environmental Safeguards during Construction Phase: -

Sr. No.	Project Activity	Prevention/ Mitigation Measure
1.	Site Clearance	**Fugitive Dust** Preserve existing vegetation where feasible. Limit the area of clearance to the area required immediately for construction. Use water for dust suppression.
		Top soil Management Strip and store the topsoil separately for reuse on embankments and landscaping. Cover the top soil stockpile with tarpaulin or any other suitable material.
		Protection of trees Preserve large trees on site Uproot and replant fully grown trees at other locations where feasible Trees which can be replanted in other areas should be uprooted with care. Compensatory tree plantation should be based on suitably designed tree plantation programs. For trees where canopy is trimmed, applying chemicals like copper sulphate in required quantities on the cut faces to inhibit sap loss, fungal attacks etc.
2.	Air Quality	Minimizing dust from material handling sources, such as conveyors and bins, by using covers and/or control equipment (water suppression, bag house, or cyclone) Minimizing dust from open area sources, including storage piles, by using control measures such as installing enclosures and covers, and increasing the moisture content Dust suppression techniques should be implemented, such as applying water or non-toxic chemicals to minimize dust from vehicle movements Selectively removing potential hazardous air pollutants, such as asbestos, from existing infrastructure prior to demolition Managing emissions from mobile sources Avoiding open burning of solid

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3.	Soil Erosion	**Sediment mobilization and transport** Reducing or preventing erosion by: Scheduling to avoid heavy rainfall periods (i.e., during the dry season) to the extent practical Contouring and minimizing length and steepness of slopes Mulching to stabilize exposed areas Re-vegetating areas promptly Designing channels and ditches for post-construction flows Lining steep channel and slopes (e.g. use jute matting) Reducing or preventing off-site sediment transport through use of settlement ponds, silt fences, and water treatment, and modifying or suspending activities during extreme rainfall and high winds to the extent practical
4.	Water Bodies	**Disturbance to water bodies** Depending on the potential for adverse impacts, installing free-spanning structures (e.g., single span bridges) for road watercourse crossings. Restricting the duration and timing of in-stream activities to lower low periods, and avoiding periods critical to biological cycles of valued flora and fauna (e.g., migration, spawning, etc.) For in- stream works, using isolation techniques such as beaming or diversion during construction to limit the exposure of disturbed sediments to moving water. Consider using trenchless technology for pipeline crossings (e.g., suspended crossings) or installation by directional drilling. **Structural (slope) stability** Providing effective short term measures for slope stabilization, sediment control and subsidence control until long term measures for the operational phase can be implemented Providing adequate drainage systems to minimize and control infiltration. **Clean runoff management** Segregating or diverting clean water runoff to prevent it mixing with water containing a high solids content, to minimize the volume of water to be treated prior to release.
5.	Demolition	Use water for dust suppression on stacked debris Where feasible, plan for reuse and recycling of demolition waste. Dispose demolition waste in areas designated by the local authority. Install noise barriers around work areas

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	6.	Use of vehicles, machinery and other equipment: Generation of Noise	Inform the neighborhood regarding the schedule of high noise Generating activities. For conduct of work near sensitive receptors like schools, Hospitals, consult the management regarding work schedules. Schedule construction activities to avoid noisy activities near forests and human habitation during the night Conduct noise generating activities between 6 am to 9 pm. Provide noise barriers at sensitive locations. Construction Equipment should restrict use of equipment emitting noise greater than 90 dB(A) Avoid use of pneumatic equipments like jack hammers that could cause loud noise near sensitive areas. Wedge and hammer or similar other techniques could be employed. Noise producing equipment like concrete mixers, generators, graders etc. should be provided with noise shields around them, effective in adequate attenuation of noise levels. Preventive maintenance of vehicles, equipment should be carried out to prevent noise generation from parts. Provide an impermeable flooring in the vehicle workshop. Collect waste oil through trays and store it separately. Reuse waste oil for shuttering. Dispose waste oil to MoEF approved recyclers. Install oil and grease traps to treat waste water from the workshop.
	7.	Noise and Vibration	Planning activities in consultation with local communities so that activities with the greatest potential to generate noise are planned during periods of the day that will result in least disturbance Using noise control devices, such as temporary noise barriers and deflectors for impact and blasting activities, and exhaust muffling devices for combustion engines. Avoiding or minimizing project material transportation through community areas during peak hours Provision of mandatory acoustic enclosure /acoustic treatment of room for stationary DG sets (5KVA and above). The acoustic enclosure/acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss for meeting the ambient noise standards, whichever is on the higher side. The DG set should be provided with proper exhaust muffler with insertion loss of minimum 25 dB (A) Provision for stationary machines and equipment with acoustic enclosures and silencers.
	8.	Water consumption	Water for construction works should not be drawn from community water sources. Obtain permit for consumption of water during construction and operation of the facility. Obtain permission for bore wells and check the quality of water for construction and consumption. bore wells in water scarce/ drought prone regions. Check the bode well for leakages if any and fix them immediately. Cap the bore well after completion of construction.

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	9.	Labour Camp	Provide dustbins to avoid littering. Provide a common cooking area with LPG connection. Provide adequate sanitation facilities based on the number of workers residing in the camp. Discharge domestic waste water into septic tank/ soak pit system.
	10.	Excavation and Earthwork	If feasible, reduce activities during windy conditions. Limit the area of excavation to immediate requirement. Use water for dust suppression on stockpiles and excavated areas. Closely monitor construction near water bodies to ensure that the excavated earth does not spill into them. Install hard barricades where required. Reuse surplus material for backfilling Provide for stormwater management within the site Provide silt traps in appropriate locations to de-silt the storm water.
	11.	Procuring Construction Material	Ensure that the material is obtained from approved quarries. Obtain permission from local authority as well as the owner of the land from which soil is being borrowed. Strip and store the topsoil for reuse on embankments, landscaping etc. Stormwater management around borrow areas Restoration of borrow areas to stop soil erosion
	12.	Transportation of material	All dumpers or trucks transporting construction material, soil and construction spoil should be covered with tarpaulin.
	13.	Solid Waste	Implementation of appropriate waste identification, segregation and disposal protocols and procedures Manage construction site waste through recycling. Grinding of removed, old surface material and reuse in paving, or stockpiling the reclaim for road bed or other uses. If not recycled, it should disposed in a sound manner avoiding spillage of construction material, dumping of construction/excavation spoil on water bodies or obstructing normal flows during construction All the waste generated from the labor camps should be collected, stored and disposed in environmentally suitable manner
	14.	Hazardous Materials	Providing adequate secondary containment for fuel storage tanks and for the temporary storage of other fluids such as lubricating oils and hydraulic fluids, using impervious surfaces for refueling areas and other fluid transfer areas Training workers on the correct transfer and handling of fuels and chemicals and the response to spills. Providing portable spill containment and cleanup equipment on site and training in the equipment deployment
	15.	Use of diesel generator sets and diesel powered vehicles	Conduct stack monitoring annually. Use enclosed type diesel generator sets with stack heights as recommended by CPCB conduct preventive maintenance as Manufacturer Operating Manual. Provide noise and vibration absorption pads at the base of the diesel generator set. Use an enclosed type diesel generator set.

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	16.	Traffic diversion/ obstruction during construction	Traffic management and diversion plans should be prepared to avoid congestion in peak periods. Traffic diversions and alternate routes should be displayed along the road using signage. Working areas should be barricaded on existing roads and diversions should be demarcated with sign boards and soft barricades. Traffic marshals should be posted at high congestion areas.

Note: all rules, regulations and norms prescribed by the Environmental safeguard framework (ESSF) and policies from time to time issued by the concerned departments must be followed by the concessionaire at all times during the concessionaire period.

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SCHEDULE 26 - GUIDELINE FOR SOCIAL SAFEGUARD

INTRODUCTION

This schedule is part of the Draft Concession Agreement (DCA) under the Request for Proposal (RFP) for ***"Integrated Solid Waste Management (ISWM) for Bengaluru Urban District Under DBFOT Model (Design, Build, Finance and Operate and Transfer) for 30 Years*** through the PPP model under the BSWML to address the social safeguard requirements for the project components as specified in Schedule 1

Avoidance of Interference: -

The Concessionaire shall not interfere unnecessarily or improperly with the access to and use and occupation of all roads, footpaths and any other property in the Project Area the Concessionaire shall indemnify and hold the Authority harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference

Secondary Waste Collection of Waste: -

Concessionaire shall establish and maintain storage facilities with support from AUTHORITY in such a manner as they do not create unhygienic and insanitary conditions around it.
A storage facility shall be so placed that it is accessible to users.
Wastes stored are not exposed to open atmosphere and shall be aesthetically acceptable and user- friendly.
Concessionaire needs to ensure that no bins or containers, wherever placed, shall not overflow with the waste at any point of time.
Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed white and those for storage of other wastes shall be printed black;
Concessionaire shall ensure to train their sanitary workers to avoid manual handling of waste. If unavoidable due to constraints, manual handling shall be carried out under proper precaution with due care for safety of workers by regular use of required protective gears.

Transportation of municipal solid waste: -

Vehicles used for transportation of waste shall be properly covered so that the waste is not visible to the public, nor exposed to open environment preventing their scattering.

Concessionaire shall ensure that the vehicles engaged in waste transportation follow the permissible speed limits and other road safety norms.

ISWM Facility/ Facilities: -

The Concessionaire shall comply with all applicable safety regulations ISWM Facility/ Facilities shall be fenced/r hedged and provided with proper gate to monitor incoming vehicles or other modes of transportation. The ISWM Facility shall be well protected to prevent entry of unauthorized persons and stray animals. Further, the Concessionaire shall keep the ISWM Facility clear of unnecessary obstruction so as to avoid danger to these persons, Approach and other internal roads for free movement of vehicles and other machinery shall exist at the ISWM Facility. Utilities such as drinking water, bathing facilities, toilets for workers and lighting arrangements for operations at ISWM Facility when carried out in night hours shall be provided. Regular health inspections of workers at ISWM Facility shall be periodically made. The Concessionaire shall take care for the safety of all persons entitled to be on the Site, by ensuring the use of protective gears amongst sanitary workers, vehicle drivers, guard, gateman, while working and handling waste at ISWM Facility. Concessionaire shall provide hand gloves, high boots made of tough leather, goggles and masks to all workers for handling municipal solid waste.

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Statutory Compliances: -

Engagement of Staff and Labor: -

Concessionaire shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment and extending other facilities in compliance to the Applicable Law. The Concessionaire shall be encouraged, to the extent practicable and reasonable, to employ staff and labor with appropriate qualifications and experience from places not limited to but near to geography.

Rates of Wages and Conditions of Labor: -

The Concessionaire shall pay rates of wages and observe conditions which are not lower than the minimum wage as notified by GOK time to time

The Concessionaire shall inform their personnel about their liability to pay personal income taxes in respect of such of their salaries, wages, allowances, and any benefits as are subject to taxes under the Laws of the Country for the time being in force, and the Concessionaire shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.

Persons in the Service of Employer: -

The Concessionaire shall not recruit, or attempt to recruit, staff and labor from amongst the Authority's Personnel or shall seek approval from the Authority if the concessionaire desires to do so.

Labor Laws: -

The Concessionaire shall comply with all the relevant labor Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.

The Concessionaire shall require his employees to obey all applicable Laws, including those concerning safety at work and shall do needful for the compliance of Concessionaire shall follow and implement all statutory provisions on labor (including not employing or using children as labor and equal pay for equal work), health, safety, welfare, sanitation and working conditions. The Concessionaire shall base the employment relationship upon equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment or retirement, and discipline. The Concessionaire shall provide equal wages and benefits to men and women for the work of equal value or type.

Working Hours: -

The workers shall not be made to work outside the normal working hours stated in the employment terms & condition (appointment letter), unless: Otherwise stated;
The Independent Engineer gives consent, or The work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Concessionaire shall immediately inform IE and seek consent.

Facilities for Staff and Labor: -

The Concessionaire shall provide welfare facilities for the Personnel. The Concessionaire shall not permit any of the Concessionaire Personnel to maintain any temporary or permanent living quarters within the ISWM Facility.

Medical and Accidental Facilities: -

The Concessionaire shall at all times take all reasonable precautions to maintain the health and safety of the employed personnel. In collaboration with local health authorities, the Concessionaire shall ensure

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that medical staff, first aid facilities, sick bay and ambulance service are available at the ISWM Facility. The Concessionaire shall appoint a Safety Officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the contract period, the Concessionaire shall provide whatever is required by this person to exercise this responsibility and authority. The Concessionaire shall send, to IE, details of any accident as soon as practicable after its occurrence. The Concessionaire shall maintain records and make reports concerning health, safety and welfare of persons, and damage to property, as IE may reasonably require. If malaria or other insect-borne diseases be prevalent in the ISWM Facility, the Concessionaire shall provide his staff and labor with suitable prophylactics, equip living accommodation with screens and bed-nets, and carry out spraying with approved insecticides, as appropriate and to the IE's satisfaction. The Concessionaire shall be responsible for the safety of the labor employed by him and he shall be liable for payment of necessary compensation in the case of accidents as per Workers Compensation Act.

When excavations have been made or obstacles have been put in public through-fares or in places where there is likelihood of accidents, the Concessionaire shall comply with any requirement of law on the subject and shall provide suitable Hoarding- Lighting, watchmen when and where necessary or by any duly constituted authority, for protection of works and safety and convenience of the public or others. In case of excavations on roads, a traffic diversion plan should be made and got approved by the concerned authorities. It shall be the Concessionaire's sole responsibility to protect the public and its employees against the accident from any cause and he shall indemnify the Government against any claims for damages for injury to person or property, resulting from any such accidents and the Concessionaire shall, where the provisions of the Workmen's Compensation Act apply, take steps to properly insure against any claims thereafter.

When an accident occurs at any municipal solid waste collection, segregation, storage, processing, treatment and disposal facility or landfill site or during the transportation of such waste, which results in the death of any of the workmen employed by the Concessionaire which is so serious as to be likely to result in the death of any such workmen, the Concessionaire shall within 24 hours of the happening of such accidents, intimate the Authority in writing, the fact of such accident. The Concessionaire shall indemnify Authority against all loss or damage sustained by the Authority resulting directly or indirectly from Concessionaire's failure to give intimation in the manner aforesaid including the penalties or fines if any payable by the Government or Authority as a consequence of authority's failure to give notice under the Workmen's Compensation Act or otherwise confirm to said Act in regard to such accident. In the event of an accident in respect of which compensation may payable under the Workmen's Compensation Act VIII of 1923 whether by the Concessionaire by the Government as principal it shall be lawful for the Competent Authority to retain out of moneys due and payable to the Concessionaire such sum or sums of money as may, the opinion of the Competent Authority shall be final in regard or all matters arising under this clause.

The Concessionaire shall provide and maintain upon the Works and the Site sufficient, proper and efficient life-saving appliances and first-aid equipment to the approval of the IE and in accordance with the requirements of ILO Convention No.62. The appliances and equipment shall be available for use at all times during the Contract Period.

HIV-AIDS Prevention: -

The Concessionaire shall conduct an HIV-AIDS awareness program via an approved service provider, and shall undertake such other measures as are specified in this Contract to reduce the risk of the transfer of the HIV virus between and among the Contractor's Personnel and the local community, to promote early diagnosis and to assist affected individuals.

The Concessionaire shall: -

i. conduct Information, Education and Consultation Communication (IEC) campaigns, at least every alternate month, addressed to all the Site staff and labor (including all the Contractor's employees, all Sub- Contractors, and all truck drivers and crew making deliveries to Site for construction activities) and to the immediate local communities, concerning the risks, dangers and impact, and

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appropriate avoidance behavior with respect to Sexually Transmitted Diseases (STD)— or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular.

ii. Provide male or female condoms for all Site staff and labor as appropriate.

iii. Provide for STI and HIV/AIDS screening, diagnosis, counseling and referral to a dedicated national STI and HIV/AIDS program to all Site staff and labour.

Supply of Drinking Water and Sanitation: -

The Concessionaire shall so far be reasonable, having regard to local conditions, provide on the Site and at his expense an adequate supply of drinking water for the use of Contractor's staff and work people, together with sanitary facilities (portable toilets or latrines), to the satisfaction of the IE.

Measures against Insect and Pest Nuisance: -

The Concessionaire shall at all times take the necessary precautions to protect the Concessionaire's Personnel employed on the Site from insect and pest nuisance, and to reduce their danger to health. The Concessionaire shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

Alcoholic Liquor or Drugs: -

The Concessionaire shall not, otherwise than in accordance with the Laws of the Country, import, sell, give barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift barter or disposal thereto by Contractor's Personnel.

Festivals and Religious Customs: -

The Concessionaire shall respect the Country's recognized festivals, days of rest and religious or other customs.

Funeral Arrangements: -

The Concessionaire shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of his local employees who may die while engaged upon the Works.

Prohibition of Forced or Compulsory Labor: -

The Concessionaire shall not employ "forced or compulsory labor" in any form. "Forced or compulsory labor" consists of all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

Prohibition of Harmful Child Labor: -

The Concessionaire shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

The Concessionaire shall not employ any child to perform any work, including work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, moral, or social development. "Child" means a child below the statutory minimum age specified under applicable National, provincial or local law.

Employment Records of Workers: -

The Concessionaire shall keep complete and accurate records of the employment of labor at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers.

These records shall be summarized on a monthly basis and shall be available for inspection by the

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Engineer during normal working hours.

Workers Organizations: -

Concessionaire shall enable alternative means for the Concessionaire's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment.

Concessionaire shall not discourage the Concessionaire's Personnel from forming or joining workers' organisations of their choosing or from bargaining collectively, and shall not discriminate or retaliate against the Concessionaire's Personnel who participate, or seek to participate, in such organisations and bargain collectively. The Concessionaire shall engage with such workers' representatives.
Workers' organisations are expected to fairly represent the workers in the workforce.

Non-Discrimination and Equal Opportunity: -

The Concessionaire shall not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The Concessionaire shall base the employment relationship on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, promotion, termination of employment or retirement, and discipline. Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination.

Insurance for Contractor's Personnel: -

The Concessionaire shall effect and maintain insurance against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, sickness, disease or death of any person employed by the Concessionaire or any other of the Contractor's Personnel. The insurance shall cover the Employer and the Engineer against liability for claims, damages, losses and expenses (including legal fees and expenses) arising from injury, Sickness, disease or death of any person employed by the Concessionaire or any other of the Contractor's Personnel, except that this insurance may exclude losses and claims to the extent that they arise from any act or neglect of the Employer or of the Employer's Personnel. The insurance shall be maintained in full force and effect during the whole time that these personnel are assisting in the execution of the Works. For a Subcontractor's employees, the insurance may be affected by the Subcontractor, but the Concessionaire shall be responsible for compliance with this Clause.

In addition to any other insurance required to be taken out by statutory requirements (e.g. Workmen's Compensation Act 1923), the Concessionaire shall take out an Accident Insurance in favour of each workman employed by him on the Works. Provided that, in respect of any persons employed by any Sub-Contractor, the Concessionaire's obligations to insure as aforesaid under this Sub- Clause shall be satisfied if the Sub-Concessionaire shall have taken out Accident Insurance in respect of Concessionaire's workmen employed on the works and the Concessionaire shall require such Sub-Concessionaire to produce to the Employer, when required, such policy of Accident Insurance and the receipt for the payment of the current premium.

Disposal of excavated earth/rock during construction: -

During the site clearance and disposal of debris, the Concessionaire will take full care to ensure that public or private properties are not damaged /affected and that the traffic is not interrupted.

The Concessionaire will dispose of debris only to the identified places or with prior permission of the Independent Engineer. The Concessionaire will also dispose of the debris for the improvements for public utilities after the proper consent of villagers/community and approval of the Engineer.

In the event of any spoil or debris from the sites being deposited on any adjacent land, the Concessionaire

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will immediately remove all such spoil debris and restore the affected area to its original state to the satisfaction of the Engineer. The Concessionaire will utilize effective water sprays during the delivery and handling of materials when dust is likely to be created and to dampen stored materials during dry and windy weather. Materials having the potential to produce dust will not be loaded to a level higher than the side and tail boards and will be covered with a tarpaulin in good condition.

During earth removal and disposal of debris proper warning signs will be installed to the satisfaction of the IE. Any diversion required for traffic during disposal of debris shall be provided with traffic control signals and barriers after the discussion with local people and permission of the concerned officer. During the debris disposal, Concessionaire will take care of surrounding features and avoid any damage to it. The disposal of debris will not impact any endangered/rare flora and fauna. The horticultural and debris shall be separately collected and disposed of in accordance with the Bye laws and not to be mixed with municipal solid waste.

SANITATION AND HOUSEKEEPING AT THE LABOUR /CONSTRUCTION CAMPS:-

For laborers from outside or migrant labour, engaged by the Concessionaire for construction of ISWM Facility, temporary camping arrangements shall be made by the Concessionaire including basic daily facilities. The Concessionaire shall ensure the social safety, security and health condition of labour including women and children (if any). The number of temporary camps/tents and related facilities would depend upon the number of laborers engaged during construction period.

Site Selection: -

The construction labour camps shall be located at least 200-500m away from habitations at identified sites. The living accommodation and ancillary facilities for labour will be erected and maintained to standards and scales approved by the engineer. The camps must be located such that the drainage from and through the camps will not endanger any domestic or public water supply. All sites must be graded, ditched and rendered free from depressions such that water may get stagnant and become a nuisance.

Water Supply: -

An adequate and convenient water supply, approved by the appropriate health authority, must be provided in each camp for drinking, cooking, bathing and laundry purposes.
At all construction camps and other workplaces, good and sufficient water supply will be maintained to eliminate chances of waterborne /water-related/water-based diseases to ensure the health and hygiene of the workers.

Toilet Facilities and Hygiene: -

The Concessionaire shall have an adequate supply of water, close to latrines and urinals.

Within the precincts of every workplace, latrines and urinals will be provided in an accessible place, and the accommodation, separately for each of these, as per standards set by the Building and other Construction Workers (regulation of Employment and Conditions of Service) Act, 1996. Except in workplaces provided with water-flushed latrines connected with dry earth system (receptacles) which will be cleaned daily during working hours and kept in a strict sanitary condition. Toilet facilities adequate for the capacity of the camp must be provided. Each toilet room must be located so as to be accessible, without any individual passing through any sleeping room.
Where the toilet rooms are shared, such as in multifamily shelters and in barracks type facilities; separate toilet room must be provided for each sex. These be distinctly marked “for men” and “for women” or marked with easily understood pictures or symbols.

Disposal arrangements for the waste generated at construction camp: -

Waste bins must be provided in the camps and regularly emptied and the waste disposed 0ff in a hygienic manner to the satisfaction of relevant norms. Unless otherwise arranged for by the local sanitary authority, arrangement for disposal of excreta by incineration at the workplace will be made by means of as suitable

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incinerator approved by the local medical health or municipal authorities.

Alternatively, excreta may be disposed off by putting a layer of night soils at the bottom of a permanent tank prepared for the purpose and covering it with a 15 cm layer of waste or refuse and then covering it with a layer of earth for a fortnight (by then it will turn into manure). On completion of the works, all such temporary structures will be cleared away, all rubbish burnt, excreta tank and other disposal pits or trenches filled in and effectively sealed off and the outline site left clean and tidy, at the Contractor's expense, to the entire satisfaction of the IE.

Note: The concessionaire may follow the guidelines issued by National Institute of Urban Affairs for the subject work related ISWM project for all its norms and guidance's.

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SCHEDULE 27 - TERMS OF REFERENCE FOR UNDERTAKING COMMUNITY PARTICIPATION PROGRAM

1. INTRODUCTION: -

This Schedule shall be referred to as a guidance note for developing the awareness amongst the citizens of the project area about the need of keeping their city clean by following MSW Rules and cooperating with the Concessionaire in achieving the objectives of the Project.

The community participation is important to:

- Achieve the principles of reducing, reusing, and recycling waste.
- Discouraging littering of waste on streets and into drains, open spaces, water bodies,
- Promotes storage of waste at source, segregated as biodegradable and non- bio-degradable (so that hazardous waste and infected waste are kept separate).
- Achieve increased level of awareness about the efficient methods of waste management among the public through involvement of RWAs, or NGOs.

2. Agency for Carrying out IEC activity: -

The concessionaire shall carry out the IEC activity or alternatively may hire appropriate agencies having proven credentials in IEC activity. The hired agency by the concessionaire may be an NGO, Society or Body Corporate.
In case the concessionaire hires agency other than itself then that agency must possess at least following credentials in activities:

a) Design and Implementation of household surveys, assessment and reporting

b) Community awareness building for behavior change and Information Education Communication (IEC) Programs related to solid waste management, sanitation, health and hygiene, economic and social well-being of rag pickers, sanitary workers, vulnerable groups etc. livelihood, composting etc.

c) Capacity Building of local groups on livelihood, social safeguard, sanitation, health and environment impact due to improper disposal and handling of solid waste.

d) The agency shall impart project specific training to them prior to deployment. Whenever services of NGO staff are found /noticed unsatisfactory by AUTHORITY they shall be removed/terminated by the concessionaire immediately as per direction of Competent Authority.

3. Program Objectives: -

4.1 Awareness Generation: -

The following objective would be attained through production of IEC materials and its usages at different level:

a) Create awareness among the community, and prepare residents for upcoming project, inform about MSW rule, source segregation, health and environment impacts, roles of AUTHORITY's and Concessionaire in the Project, etc. through web site, mass media

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communication strategies such as newspapers releases, hoardings, glow sign boards, radio, TV, street plays, etc.

b) Design IECs best suitable to reinforce the messages given by agencies involved in implementation of PPP SWM in towns or other local initiatives at AUTHORITY level

4.2 Social Safeguard of Sanitary Workers: -

- Training of sanitary workers for improved health and economic status of sanitary workers through regular use of personal protective equipment (PPE)/ protective gears.

4.3 Income Generation through Waste: -

- Training and handholding of rag pickers and kabari merchants to be active members of private operators for Secondary collection of segregated waste and its disposal at identified locations.

Target Groups:

The Concessionaire is expected to network, coordinate and consult with the following target groups and beneficiaries:

- AUTHORITY's for promoting town level Program and support consultations)
- AUTHORITY officials
- Mayor/Chairman
- All ward councillors in Program towns/Board members of Urban Local Bodies
- Education Department
- Health Department
- Pollution Control Department
- Officials of leading newspapers within town
- Senior citizen forum, clubs, local samities, or any other influential groups
- Colleges, and institutes, National Social Service (NSS), National Cadet Corps (NCC), Scouts and Guide, Eco-clubs in schools, etc.
- Men, women, and children in wards including poverty pockets
- Local samities or groups (newly formed within the Program or existing)
- School Principals, Teachers, and Children in wards
- Vyapar Mandal
- Hotel Association
- Dharamshala Association
- Identified Rag pickers as per census conducted within program
- Formal and informal waste traders
- Maid servants (male and female)
- Sanitary workers, security persons placed at sanitary land filled sites, sanitary workers engaged in drain and septic tank cleaning and other related persons
- Any others, as per need and requirements

4. Suggested Approach: -

The Concessionaire can facilitate discussions amongst residents and local groups through brochures, pamphlets, and any other appropriate methods to disseminate identified information to individuals.

The following are some of the proposed approach and methodologies for awareness generation but not limited to. The Concessionaire is expected to explore the suggested

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approach best suitable to local needs and requirements. Other local innovations and related initiatives if any will be appreciated.

5.1 Baseline Survey/data collection: -

Conduct baseline survey to assess the socio-economic status of target groups, willingness and affordability of resident to pay, census of rag pickers, and formal and informal traders involved in collection of plastic and other waste. This baseline information would help the AUTHORITY's to decide the user's fees as per economic status and category of users such as shops, hotels, dharamshalas, temples, vegetable mandi, marriage halls/gardens, hotels/restaurants, etc.

5.2 Stakeholders Analysis: -

a) Any intervention will affect stakeholders differently; some of the stakeholders can influence the decision-making process. It is important therefore to identify stakeholders who might have a negative impact (such as informal rag pickers) and those who can influence the decision-making process (such as business owners and neighbours of site of ISWM Facility).Concessionaire need to consider the proposed list of stakeholders and related categories for doing the stakeholder analysis.
b) Concessionaire shall assess who are the different stakeholders in the project; does the project threaten the interest of certain stakeholders; what potential conflicts among the stakeholders can the project create etc. These would help to include messages in IEC materials and organise training programs accordingly.

5.3 Stakeholders Consultation: -

a) Organise formal or informal process of consultation with residents in city locations or through door-to-door initiatives. The main objective is to establish meaningful interaction between municipal officers, citizens, and other stakeholders and to obtain consensus on a concrete plan of action. Representative groups should be consulted to ascertain their perceptions of the SWM services, their expectations, willingness to support and participate in the SWM program and willingness to pay for the services, the mode of payment, and the periodicity of payment.
b) The most effective way to ensure that the right messages reach all participants is to launch a door-to-door awareness campaign. This step is very important. At all stages of the project, it establishes continuing contact with the participants, provides feedback, and builds a bond between the project and the beneficiaries. It kills any space for rumour mongering and builds the confidence of the people, who begin to believe that the project means to deliver the goods.
c) The Concessionaire shall facilitate the initial ward cleaning with support from the AUTHORITY to develop confidence and faith amongst households that some good practices on SWM will start in their area. This can be an entry point activity in the ward for starting a secondary garbage collection system.

d) Religious leaders play a significant role in changing people's minds. Recommendation from a well-respected religious leader to keep surroundings clean, avoid littering, and manage waste as advised by the NGO will go a long way toward improving the situation in urban areas.
e) Coordinate with hotel and market associations, institutions, etc. to ensure garbage collection time best suitable to local needs and active participation in collection of user's fees.

5.4 Community Organization: -

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a) Identify Swachta-Samities/RWAs that are taking some initiatives at the local level with limited technical skills and resources. The NGO can reorganise the group, and do the required capacity building and utilise their resources in initiating secondary garbage collection with support from sanitary workers not employed by AUTHORITY or working on contract, rag pickers etc. In the absence of existing groups it is expected to form new such groups.
b) The Concessionaire can form clusters within town as per zone boundaries marked by AUTHORITY's. The group formed at the cluster level will be ultimately responsible to ensure secondary garbage collection.

5.5 Awareness activities: -

a) Implement campaigns within government schools especially regarding source segregation, health and environment impact. Organise regular meetings with principals, teachers, and students to explain the need for change and the usefulness to society of new ways to manage waste. The message can be reinforced by holding essay, debate, or drawing and painting competitions on the subject and publicizing the winning contestants. The leading schools could be persuaded to work as role models for other schools in taking up awareness campaigns in the city through their students. Such campaigns should be highly publicized, and other schools should be persuaded to follow suit.
b) Prepare hoardings/glow sign boards and do wall writing at prominent locations on source segregation and health and environment impact. In addition, other mass media communication strategies can be used for community awareness on identified topics at large such as, TV and radio audio and visual spots.
c) Organise regular street plays for awareness about waste management and motivate non-participating residents. The main objectives of this tool of communication will be to
   - Attract residents to participate in the on-going SWM program
   - Emphasize the importance of segregation and disposal of household garbage in keeping streets clean
   - Drive home the importance of garbage reduction and waste recycling and discourage use of plastics in daily life.
   - Disseminate information on the benefits of composting wet waste and kitchen waste.

5.6 Income Generation from Waste Collected: -

Recycle paper and plastic carry-bags; promotes the concepts of waste segregation, waste minimization, and waste recycling; and provides employment opportunities.The following activities can be conducted:

a) Awareness generation amongst stakeholders regarding health hazards of plastic and related livelihood opportunities.

b) Create awareness amongst beneficiary households for source segregation of waste including plastic.

c) Organise workshop amongst school children and women kitty groups/self- help group

d) Train informal rag pickers to become professional waste workers in the private sector.

5.7 Social safeguard of waste collector and sanitary workers: -

a) Ensure capacity building of rag pickers, sanitary workers, vehicle drivers, guards/security

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person in-charge stationed at sanitary land filled site for use of protective gear, health and environment impact due to improper handling and disposal of solid waste

b) Promote use of protective gears amongst sanitary workers engaged SWM Service, and aware them about health and economic impact.

c) Monitor and document use of protective gears amongst sanitary workers and rag pickers as per identified PPE (personal protective equipment) safeguard checklist. Plan motivational campaigns for its regular use as per need.

5.8 Role of Women associations in SWM: -

Women are generally found to be more concerned with the maintenance of health and hygiene, and they are involved in domestic waste management on a day-to-day- basis. Awareness among women in small groups could be organised. The literature produced in very simple, understandable language and graphics to create awareness among women are also disseminated

5.9 Capacity building of local groups: -

a) Organising a training program for RWAs to motivate the community toward waste management is important for ensuring the sustainability of training informal rag pickers to become professional waste workers in the private sector.

5.10 Social safeguard of waste collector and sanitary workers: -

a) Ensure capacity building of rag pickers, sanitary workers, vehicle drivers, guards/security person in-charge stationed at sanitary land filled site for use of protective gear, health and environment impact due to improper handling and disposal of solid waste

b) Promote use of protective gears amongst sanitary workers engaged SWM Service, and aware them about health and economic impact.

c) Monitor and document use of protective gears amongst sanitary workers and rag pickers as per identified PPE (personal protective equipment) safeguard checklist. Plan motivational campaigns for its regular use as per need.

5.11 Role of Women associations in SWM: -

Women are generally found to be more concerned with the maintenance of health and hygiene, and they are involved in domestic waste management on a day-to-day- basis. Awareness among women in small groups could be organised. The literature produced in very simple, understandable language and graphics to create awareness among women are also disseminated

5.12 Capacity building of local groups: -

Organising a training program for the RWAs to motivate the community toward waste management is important for ensuring the sustainability of a system. All stakeholders need to be oriented toward segregation at source and to understand the problems and health issues concerned with inefficient disposal of municipal solid waste.

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a) Rag pickers and kabadiwalas (itinerant waste retrievers) should preferably be involved for secondary collection of source-segregated waste. Rag pickers need to be educated on the ill effects of abusing alcohol and drugs, rummaging through garbage piles without safety gear, contracting infections through unsafe handling of waste, and so forth.
b) Training in the right method of segregation and collection of waste should be given. They should also be taught to manage their time and to follow the route plan for each sector. They should be taught soft skills to interact with residents and to promote congenial working relations with their partners.

5. Expected Outcomes: -

The following are the main expected outcomes of awareness programs and capacity building of local groups:

- Door-to-door collection of waste in segregated form for onward processing;
- Increased knowledge of the community at large about the importance of proper disposal of waste and its health, environmental and economic benefits.
- Production of compost from bio-degradable waste and utility items from plastic waste linked to market/other appropriate.
- Increased livelihood opportunities for kabari merchants, rag pickers, and safai karamchari.
- Community participation and developing the habit of paying user charges.
- Compliance of MSW rules.

6. Support to be provided by AUTHORITY's: -

The AUTHORITY's will support the Concessionaire in following issues:

- Support to Concessionaire in coordinating and networking at district level departments and agencies if required regarding follow-up of pending issues, and handling of grievances
- Facilitate in identifying the gaps in implementation of awareness activities at field level
- Monitoring, supervision, and review of Concessionaire's activities on a monthly basis

The AUTHORITY officials should be involved in the whole process since its inception. This will include on job training, regular support, monitoring, and supervision. AUTHORITY involvement will ensure a sense of ownership, which is essential to ensure sustainability of the SWM mechanism.

7. Monitoring and Reporting Requirements Monitoring System: -

The Concessionaire is expected to conduct the internal monitoring of the activities agreed upon to assess their effectiveness in the field. The IE will provide the basic monitoring indicators. In addition to this, regular monitoring of the IEC activities will be done by AUTHORITY through regular field visits as well as monthly and quarterly review meetings at district and town level.

In-charge IEC activities of Concessionaire will review reports and documents submitted and prepare feedback and comments to improve the quality of their submissions. He/She will prepare a quarterly report on performance of Concessionaire functioning with technical support from IE.

8. Reporting System: -

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The Concessionaire will implement activities described above in accordance with the approved work plan during the contract period however for the sake of clarity here the IEC activity shall be carried out for the first five years after signing of the contract

The Concessionaire shall maintain daily records of the progress with regard to the works carried out. These will form the basis of periodic reports and returns as may be required by the IE. The reports to be submitted to Municipal Corporation by Concessionaire are as under:

Table-1: Reports and Returns

Sr. No.	Deliverables	Number of copies	Duration	Topic
1.	Action plan	2	Two months of contract inception	Schedule of activities-ward wise
2.	Monthly Progress Reports	2	Tenth day of each month	Brief summary of activities taken up, progress achieved, and problems encountered during the preceding month
3.	Quarterly Progress	2	Two weeks after completion of the quarter	Reports which provide detailed assessments of the progress achieved, problems encountered, and results of the programs taken up
4.	Community level Training Reports	2	Within ten days after the completion of each training program	Topics, objectives, brief details of various sessions, copy of presentations, outcome, suggestions, analysis of feedback, participants registration list, and photographs,
5.	Baseline Reports	2	Three months of contract inception	Survey findings, census data
6.	A Final Report	2	One month prior to completion of assignment	Compliance against activities undertaken, main achievements, suggestions, constraints, successful case study

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7.	Documents inclusive of IEC materials	Two hard and soft copies	One month prior to completion of assignment	All documents/materials produced during assignment period
8.	Copies of all data sheets used for the collecting information and data	I set	Same as above	All data sheets and documents collected

Above reports shall be submitted to AUTHORITY after its verification and approval from Concessionaire. The verification of all above reports shall be carried out by concerned in-charge from Private Operator.

Waste Report

a) Report for Processing Plant

Daily Report for other details of the Processing Facility
[This format is subject to change as per the discretion of the Authority]

Date:				
Downtime of weighbridges (hrs):				
	Downtime of MRF(hrs):			
Downtime of Processing Plant module (hrs):		Description of the module:		
Total quantity of MSW received:			100 %	(tonnes)
Quantity of recyclable MSW recovered:			%	(tonnes)
Quantity of biodegradable and combustible MSW:			%	(tonnes)
Quantity of waste landfilled	Inert waste:		%	(tonnes)
	Process remnants:		%	(tonnes)
	Total(b):		%	(tonnes)
Quantity of unprocessed MSW at the Processing Plant				(tonnes)

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Quantity of MSW rejected:	(tonnes)	Reasons for the rejection:	
Amount of energy sold to discom		- --------MU	

b) Monthly Report

[This format is subject to change as per the discretion of the Authority]

Date from:		Date to:		
Total downtime of weighbridges(no of shifts):				
Total downtime of MRF(no of shifts):				
Downtime of each Processing Plant module (no of shifts):	S. No.	Module Description		Downtime
Total quantity of MSW received:			100 %	(tonnes)
Total quantity of recyclable MSW recovered:			%	(tonnes)
Total quantity of biodegradable and combustible MSW:			%	(tonnes)
Total quantity of waste landfilled	Inert waste:		%	(tonnes)
	Process remnants:		%	(tonnes)
	Total:		%	(tonnes)
Total quantity of unprocessed MSW at the Processing Plant				(tonnes)
Monthly Average quantity of MSW delivered at the Processing Plant				(tonnes)
Total quantity of MSW rejected:	(tonnes)	Reasons for the rejection:		
Note on compliance to applicable standards				

c) Consolidated Monthly Report

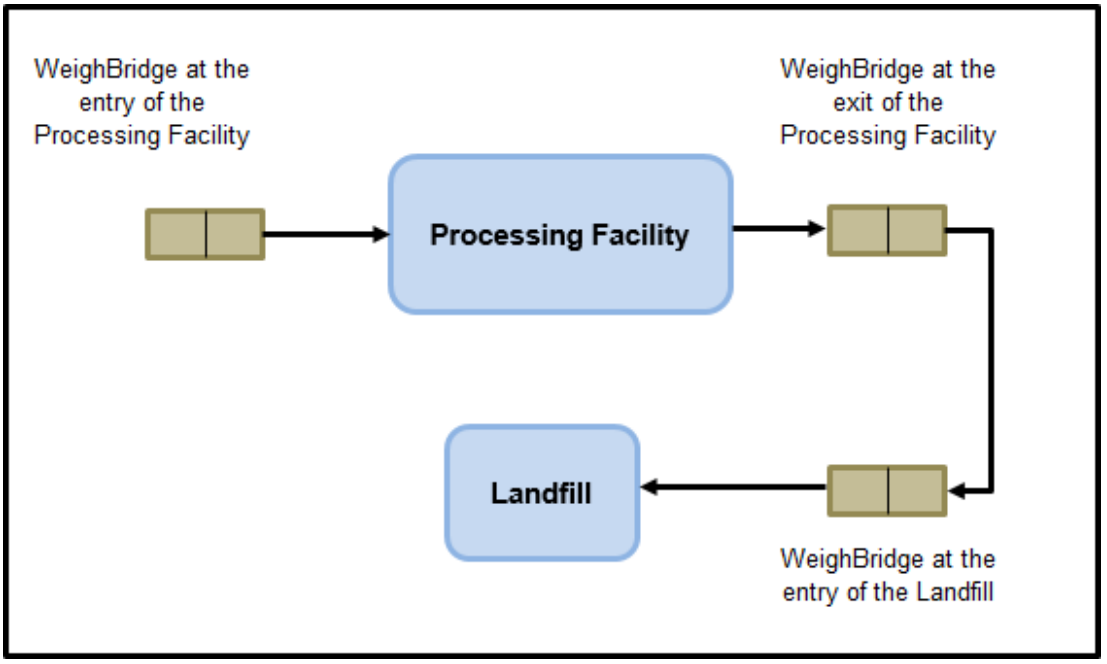
[This format is subject to change as per the discretion of the Authority]

Monthly Waste Report	
Date from:	Date to:

For reference purpose only

Total quantity of MSW received at the Processing Facility	100 %	___(tonnes)
Total quantity of waste landfilled	%	(tonnes)
Total energy sold to the discom		------- MU

d) Schematic Drawing of Weighbridges Locations


WeighBridge at the entry of the Processing Facility
WeighBridge at the exit of the Processing Facility
Processing Facility
Landfill
WeighBridge at the entry of the Landfill

9. Action Plan for Awareness Generation on SWM: -

Above are some of the awareness generation activities which may change according to changing needs of the Program requirements. During the Implementation Period and Concession Period, some new activities can be added as per the identified requirements. The Concessionaire is expected to prepare a detailed action plan for carrying out at least the following activities for awareness generation as a part of the DPR and get it approved by IE and MC for implementation.

Table-2: Proposed Solid Waste Management Action Plan on Awareness Generation

Sl.no	Activity/Issues	Indicators
Output – I Component: Improved and increased solid waste management services through Awareness Generation		
1.1	Baseline survey within the project area	Data on no. of FHH rag pickers, formal/informal traders (FHHs) in the service area for a) socio economic status of community b) access to nearest community bins, c) willingness and affordability to pay by women headed HHs in particular and others in general d) health problems faced by sanitary workers, e) perception about use of protective gears,

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		f) status of health benefits
1.2	Public Consultations	With various stakeholders in each lanes of the wards across towns (formal)
1.3	Formation of local groups	Reorganize the existing local groups if or organize the new groups
1.4	SWM school Campaign	Identify number of secondary government and private schools interested to participate for information dissemination at home and peer group
1.5	Awareness through mass media	Display of hoardings/glow sign boards on source segregation and health and environment impact
		Transmission of awareness messages/audio-visual spots through popular channels, FM on source segregation and health and environment impact
1.6	Street Plays	Street plays on prime hot spots, during local level training, rallies, competitions, public consultations etc.
Output – 2 Component: Secondary Garbage collection, collection of User charges, handling of grievances		
2.1	Secondary garbage collection	Secondary garbage collection by sanitary workers, gradual increase in source segregation & Creation of helpline for grievance handling
Output – 4 Social Safeguard of sanitary workers		
4.1	Use of protective gear during handling of solid waste	Enhanced awareness and active participation
4.2	Health Insurance	Enhanced awareness and active participation
4.3	Financial support to Rag Pickers	Enhanced awareness and increased economic Benefits
Output – 5 Capacity Building of Local Groups		
5.1	Orient sanitary workers on use of PPP and health concerns, good behavior practices, and right method of segregation and collection of waste	Enhanced awareness and increased Health benefits
5.2	Orient Rag pickers on the ill effects of abusing alcohol and drugs, rummaging through garbage piles without safety gear, contracting infections through unsafe handling of waste, etc.	Increased awareness and improved well being
5.3	Orient sanitary workers, and rag pickers on various welfare schemes related to education, health, employment, houses, etc.	Increased awareness and improved well being

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For reference purpose only

SCHEDULE 28 – DELETED

For reference purpose only

SCHEDULE 29 - PERFORMANCE STANDARDS

[As per Article 19 of the Concession Agreement]

For reference purpose only

SCHEDULE 30 – LIST OF CLEARANCES
List of Clearances

The Concessionaire should align project development to the relevant clauses / requirements from the following standards / references on environmental regulation and safeguards:

1. Municipal Solid Waste (Management and Handling) Rules, 2000/2016
2. Draft Solid Waste (Management and Handling) Rules, 2013
3. Requirements of the Karnataka State Pollution Control Board (GOK).
4. Other applicable environmental regulation at the National, State and Local Level Following
5. International Finance Corporation (IFC) Performance Standards, 2012 (as required by DFID Environmental Policy and Safeguards) :-
6. Performance Standard 1: Assessment and Management of Environmental Risks and
7. Impacts Performance Standard 3: Resource Efficiency and Pollution Prevention
8. Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
9. Performance Standard 8: Cultural Heritage
10. IFC general EHS Guidelines and MSW Sector Guidelines

The Concessionaire shall comply with the management standards such as ISO 14001 or OHSAS 18001 to better address the environmental and health & safety safeguards and compliance.

As per the national environmental regulation applicable in India, the Table 1 below specifies the key statutory requirements ensuring compliance at the Project area.

Sl. No.	Regulatory Requirement
1.	Seeking Authorization from GOK under applicable MSW (M&H) Rules
2.	Develop ToR and seek approval from SEIAA/ applicable approving authority, Appointment of Consultant, Conduct EIA and ensure Environmental Clearance from SEIAA/ applicable approving authority
3.	Seek the consent to Establish and Operate under the Air and Water Acts, and subsequent renewals from GOK
4.	Implementation of the requirements as per applicable MSW Rules during the Implementation and Concession Period
5.	Post EC, conduct project monitoring as per EMP and submit Monitoring Report to GOK / UDD/BSWML.....
6.	Annual Report to GOK/UDD/BSWML

Any statutory requirement as per the Applicable Laws, apart from those mentioned above, and as decided by the Authority and the Independent Engineer during the Planning Phase and during concession period shall also be applicable if any such SWM rules are amended or come into force as per the statutory requirement of GOI.

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SCHEDULE 31 - SCHEDULE OF MOVABLE ASSETS

The assets and facilities related to Solid Waste Management in all AUTHORITY's of the cluster and which are in proper condition and can be used or required by the concessionaire, shall be transferred to the concessionaire on as is basis.

If there is a disagreement between Authority and Concessionaire about the condition of the assets and facilities, then (independent Engineer (IE) shall decide about it after properly examining the assets and facilities.

SCHEDULE-I: LIST OF MOVABLE ASSETS

Items	**Quantity**
Trucks	
Poclain Machine	
Refuse Compactor	
Tipper	
Dumper Placer	
JCB Robot	
Tractor Trolley	
Loader	
Auto Rickshaw	
Dumper	

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SCHEDULE 32 - DELETED
TIPPING FEE ADJUSTMENT: NOT APPLICABLE

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SCHEDULE 33 - DELETED

INTER AUTHORITY ESCROW ACCOUNT AGREEMENT

[DELETED]

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SCHEDULE 34- DELETED
DISBURSEMENT GRANT SCHEDULE: NOT APPLICABLE

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SCHEDULE 35 - DELETED

For reference purpose only

SCHEDULE 36 - DELETED
LETTER OF COMFORT

For reference purpose only

SCHEDULE 37 - LAND LEASE AGREEMENT

[Deleted]

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GOVERNMENT OF KARNATAKA

VOLUME: IV

PROJECT INFORMATION MEMORANDUM (PIM)

APPOINTMENT OF CONCESSIONAIRE ON TIPPING FEE BASIS TO EXECUTE THE COMPREHENSIVE INTEGRATED SOLID WASTE MANAGEMENT (ISWM) FACILITIES INCLUDING SECONDARY TRANSPORTATION OF MSW FROM TRANSFER STATIONS TO DESIGNATED PROCESSING CENTERS AND FURTHER PROCESSING AND DISPOSAL OF THE SAME

in North Package (Yelahanka Zone, Dasarahalli Zone, East Zone & West Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (*PPP mode – DBFOT Model*)

in South Package (RR Nagar Zone, Mahadevapura Zone, South Zone & Bommanahalli Zone) of BBMP and Bengaluru Urban District jurisdiction by seeking private sector participation on Public Private Partnership (*PPP mode – DBFOT Model*)

(Call-2)

BENGALURU SOLID WASTE MANAGEMENT LIMITED (BSWML)

No. 30/1, 1st and 2nd Floor, UNI Buildings, Thimmaiah Road, Vasanth Nagar,

Bengaluru – 560 002.

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DISCLAIMER

This Project Information Memorandum (PIM) provides an overview of the existing facilities and the status of Solid Waste Management and handling processes. The information contained herein is based on field surveys and data collected from BBMP/BSWML offices, along with various departmental sources and publicly available reports and surveys.

It is important to note that the PIM is intended to offer a general understanding of the current situation, and the assessment of such facilities shall be an integral part of the Bidder's responsibility. This document is meant to serve as a reference and initial guide for interested parties, and it is recommended that Bidders or Applicants conduct their own due diligence and comprehensive assessments to ensure accurate and up-to-date information before participating in the bidding process.

While every effort has been made to ensure the accuracy and reliability of the information presented, however, BSWML shall not be held responsible for any discrepancies, omissions, or changes that may arise on the publication of this document. **Any reliance on the contents of this PIM is done so at the sole discretion and risk of the reader or user**. This disclaimer underscores the importance of independent verification and assessment when considering participation in projects related to Solid Waste Management and any other associated activities of the bidding process.

Note: This document is a common document for North Package and South Package of the Project “APPOINTMENT OF CONCESSIONAIRE ON TIPPING FEE BASIS TO EXECUTE THE COMPREHENSIVE INTEGRATED SOLID WASTE MANAGEMENT (ISWM) FACILITIES INCLUDING SECONDARY TRANSPORTATION OF MSW FROM TRANSFER STATIONS TO DESIGNATED PROCESSING CENTERS AND FURTHER PROCESSING AND DISPOSAL OF THE SAME”. The information provided in this document should be read with reference to the relevant Package—either North Package or South Package—as applicable.

Note: The BBMP shall transition into GBA (Greater Bengaluru Authority) over the next few months, with three constituent municipal bodies, collectively responsible for the current jurisdiction of BBMP.

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Executive Summary

1. Introduction:

The **Project** refers to the initiative aimed at enabling the secondary collection and transportation of Municipal Solid Waste (MSW) from transfer stations to designated processing centers. It further involves the processing and scientific disposal of solid waste (SW) in a sanitary landfill. The scope includes the design, development, financing, construction, operation, and maintenance of the plant, all under and in accordance with the terms and provisions of this Agreement.

An **Integrated Solid Waste Management (ISWM) facility** has been conceived to provide a comprehensive solution for Bengaluru City, enabling the processing of solid waste at various locations as per project requirements. ISWM encompasses the processing of solid waste into new or recycled products through technologies such as bio-methanation, Refuse-Derived Fuel (RDF), pelletization, waste-to-energy (for electricity generation), or other similar methods.

All proposed waste processing technologies must be **proven and approved** by relevant authorities, including the Central Pollution Control Board (CPCB), Ministry of Housing and Urban Affairs (MoHUA), Swachh Bharat Mission (SBM 2.0), any State Pollution Control Board (SPCB), or internationally recognized bodies. These technologies must comply with the standards outlined in the background documents, the Solid Waste Management Rules, 2016, National Green Tribunal (NGT) orders, and other applicable laws and regulations. Adherence to any future amendments or orders issued during the concession period is also mandatory.

2. Salient features

The proposed Integrated Solid Waste Management proposal is aimed to cover the entire BBMP jurisdiction plus Bengaluru Urban district area. The BBMP jurisdiction has got 198 wards presently and amended to 225 Wards with 30 divisions under 8 Parliamentary Constitutions.

Project Area	
Total Area (Km^2)	2160 sq. km
Population	
Population within BBMP Limits (Lakhs) – 2023	132
Urban District other than BBMP (Lakhs) – 2023	5.32
Floating Population (Lakhs) – 2023	9.78

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Project Area	
Total estimated Population (Lakhs) – 2023	147.1
Total number of Households (lakhs)	32.83
No. of Zones	8
Divisions (Assembly constituency)	30
No. of Wards in BBMP area	225 (198 wards – old)

For futuristic planning, the projected population for the year 2030 has been used to estimate the volume of waste that will be generated, thereby determining the required capacity for effective waste management.

Projected Waste Generated in the Project Area (2030)			
For Year 2030	**Population (Million)**	**Per capita Waste (gm/day/capita)**	**Waste Generated (TPD)**
BBMP	17.2	400	6,872
Urban District	0.7	400	291
Floating	1.3	100	127
Sub-Total	**19.2**	**-**	**7,290**
Street-sweeping	**-**	**-**	**870**
Total	**-**	**-**	**8,160**

Note: Excludes bulk waste generated

- The average distance from transfer stations to processing & disposal sites is 75 km for North Package and 40 km for South Package.
- Authority will provide approximately 80 acres land for each package to set up the processing & disposal sites, as per Annexure 2 of the PIM.
- The waste quantities, population projections are only indicative to give the fair idea to the bidders. The actual waste quantities, distances to travel and all relevant information has to be established by the bidders on your own and the Authority will not hold the responsibility for the same.
- All intending bidders will be required prepare their own assessment, methodology, technologies and arrive the suitable tipping fee for the entire scope.

3. Package wise details of Secondary transportation and Processing & Disposal work

Based on the 2011 Census and an annual population growth rate of 3.8%, municipal solid waste (MSW) generation in the Project Area is projected to reach approximately 8,160 tonnes per day (TPD) by 2030, comprising 7,290 TPD from households (excluding bulk waste) and 870 TPD from street-sweeping waste, with per capita generation rates of 400 grams for residents and 100 grams for floating populations.

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Although operations are expected to begin in 2028, estimates for 2030 have been used to account for full operational capacity. The Project Area includes several existing decentralized and centralized waste processing facilities to which BSWML is contractually committed, amounting to 2,088 TPD of waste (438 TPD to decentralized and 1,650 TPD to centralized facilities). Of this, 438 TPD—planned for decentralized units—will be managed by the Primary Collection & Transport vendors and is therefore excluded from this tender.

This brings the total waste volume for secondary transportation under the Concessionaire's scope to 7,722 TPD. However, of this, 1,650 TPD is allocated to existing centralized facilities (e.g., MSGP and Bidadi KPCL WTE plants) for which the Concessionaire will handle only secondary transportation, reducing the total waste available for processing and disposal under the Concessionaire's scope to 6,072 TPD.

The distribution of the same across the two Packages is as per below:

Planned Capacity	Secondary Transportation (TPD)	Processing & Disposal (TPD)
North Package	3,822	3,073
South Package	3,900	2,999

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GLOSSARY

SL. NO.	ABBREVIATIONS	FULL FORM
1.	BBMP	Bruhat Bengaluru Mahanagara Palike
2.	BSWML	Bengaluru Solid Waste Management Limited
3.	CAPEX	Capital Expenditure
4.	C&T	Collection & Transportation
5.	CPCB	Central Pollution Control Board
6.	CERC	Central Electricity Regulatory Commission
7.	CNG	Compressed Natural Gas
8.	CPHEEO	Central Public Health and Environmental Engineering Organization
9.	DPR	Detailed Project Report
10.	DBFOT	Design Build Finance Operate and Transfer
11.	DBO	Design, Build, Operate
12.	DWCC	Dry Waste Collection Centres
13.	EPC	Engineering, Procurement, Construction
14.	GVP	Garbage Vulnerable Point
15.	GHG	GreenHouse Gases
16.	G.o.K	Government of Karnataka
17.	GoI	Government of India
18.	GVW	Gross Vehicle Weight
19.	IEC	Information, Education, and Communication
20.	ISWM	Integrated Solid Waste Management
21.	IT	Income Tax
22.	KCDC	Karnataka Compost Development Corporation
23.	KSERC	Karnataka State Electricity Regulatory Commission
24.	KLD	Kilolitres per Day
25.	LTP	Leachate Treatment Plant
26.	MAT	Minimum Alternate Tax
27.	MRF	Material Recycling Facility
28.	SW	Solid Waste
29.	SWM	Solid Waste Management
30.	MoHUA	Ministry of Housing and Urban Affairs
31.	MTS	Mini Transfer Station
32.	MW	Megawatt
33.	O&M	Operation & Maintenance
34.	OPEX	Operational Expenditure
35.	PIM	Project Information Memorandum

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36.	PPP	Public Private Partnership
37.	P&D	Processing & Disposal
38.	PNG	Petroleum and Natural Gas
39.	PMC	Project Management Consultants
40.	RDF	Refuse Derived Fuel
41.	SERC	State Electricity Regulatory Commission
42.	SLF	Sanitary Landfill
43.	SPCB	State Pollution Control Board
44.	SCTPs	Secondary Collection and Transfer Points
45.	SWM	Solid Waste Management
46.	SW	Solid Waste
47.	TEFR	Technical Economical and Financial Report
48.	TPD	Tonnes per Day
49.	ULB	Urban Local Bodies
50.	UDD	Urban Development Department
51.	BUD	Bengaluru Urban District
52.	UN	United Nations
53.	WTE	Waste to Energy
54.	YoY	Year on Year

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1. INTRODUCTION

1.1 Context and background

Waste management is one of the most pressing issues for governmental authorities in India due to rising urbanisation, increase in waste generation and types of waste, lack of space for waste processing facilities, limited financial resources and inadequate waste management systems and infrastructure. In this context, the Solid Waste Management Rules, 2016 ("SWM Rules 2016") were framed by the Ministry of Environment, Forest and Climate Change to address the issue of solid waste management and identify the roles and responsibilities of different stakeholders including government bodies and the waste generators in the solid waste management ecosystem. Under the SWM Rules 2016, the urban local bodies ("ULB") are responsible for implementation of these rules within their jurisdictions.

The rapid increase in waste generation is demanding for a renewed attention to the increasing problem of Solid Waste management. In this context, BBMP will adopt an integrated waste management system that implements a waste management hierarchy with the aim to reduce the amount of waste being disposed of, while maximising recovery of resources and resource conservation. It is closely linked to the 4R approach (reduce, reuse, recycle and recover) and principles of circular economy which also emphasises the importance of waste reduction, reuse, recovery and recycling over other forms of waste processing or management.

Presently, Bengaluru is facing significant problems due to existing disposal practices of generated waste incurring high COST due to lack of proper planned infrastructural facilities; the open dumping in the expanding zone of the city poses severe problems to the structures constructed on these old dumps. In the meantime, groundwater quality deteriorated due to improper leachate management

The Bengaluru Solid Waste Management Limited (BSWML) intends to select a suitable concessionaire for carrying out the work relating to Secondary Collection and Transportation and Processing and Disposal besides establishment of Integrated Processing facilities at various locations to Treat SW in the jurisdiction of BBMP and Bengaluru Urban District in compliance with the Solid Waste Management 2016 rules.

1.2 Overview of project jurisdiction

The proposed study covers the area of Bengaluru Urban District along with the BBMP Jurisdictions.

i. Bengaluru Urban District: The urban district covers about 1450 sq. km with the population of about 5.32 Lakhs (approx.) which covers the 86 villages majorly in five

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divisions i.e. Anekal, Yelahanka, Byatarayanapura, Yeshwanthpur, Kengeri and Mahadevapura.

ii. Jurisdiction of the BBMP: The BBMP covers an area of about 714 sq. km with the population of 1.32 Crores (approximately) and floating population of 9.78 Lakhs (based on Dr. Hoysall N Chanakya report on floating population). There are about 225 wards amalgamated into 30 divisions/ Assembly constituencies and these divisions are further amalgamated to 8 Zones (MP Constituencies).

- North Package: comprises of the 4 Zones of BBMP – Yelahanka, Dasarahalli, West, and, East, along with neighboring areas of the Bangalore Urban District;
- South Package: comprises of the 4 Zones of BBMP – Rajarajeshwari Nagar Zone, Mahadevapura Zone, South Zone, and Bommanahalli Zone, along with neighboring areas of the Bangalore Urban District, as detailed in Annexure I of the RFP.

1.3 Bengaluru Urban District

Bengaluru, is the capital city of Karnataka, which is also the Headquarter of the Bengaluru Urban District located on the Deccan plateau at an elevation of approximately 920 meters (3,018 feet) above sea level in the south eastern part of Karnataka. Bengaluru Urban District is spread across 4 Talukas namely Bengaluru North, Bengaluru East, Bengaluru South and Anekal. Bengaluru is renowned and well known as the "Silicon Valley of India" due to its prominent role in the field of information technology and innovations. Bengaluru has a rich history of ancient times and was part of various dynasties, including the Cholas, Hoysalas, and Vijayanagara Empire. The city's modern development, however, gained momentum during the British colonial period. It served as a cantonment area and administrative centre for the British, contributing to its urban growth as well.

The regions exhibit two primary types of soils i.e. red loamy soil and lateritic soil. Red loamy soils are typically found on hilly to undulating slopes in granite and gneissic terrains, predominantly in the eastern and southern parts of Bengaluru. On the other hand, laterite soils are present on undulating terrain, creating a flat to gently sloping topography in the peninsular gneissic region.

The climate in Bengaluru is moderate, with relatively mild temperatures (ranging between 16°C to 32°C) year-round due to its elevation. Summers (March to June) are warm, while monsoons (June to September) bring heavy rainfall. Winters (October to February) are cooler and more comfortable, making it an attractive destination for visitors.

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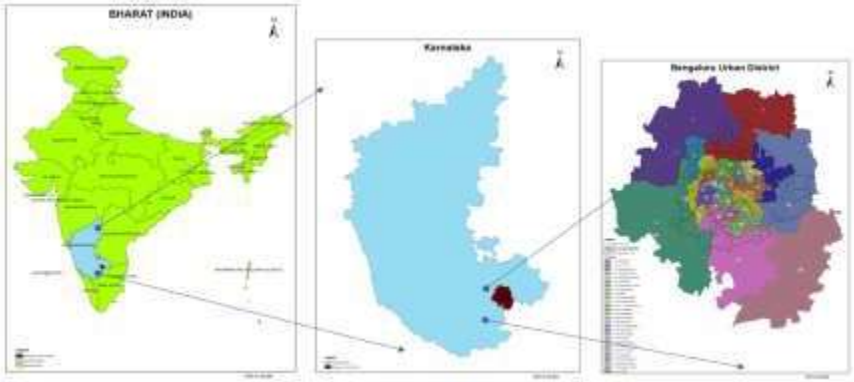
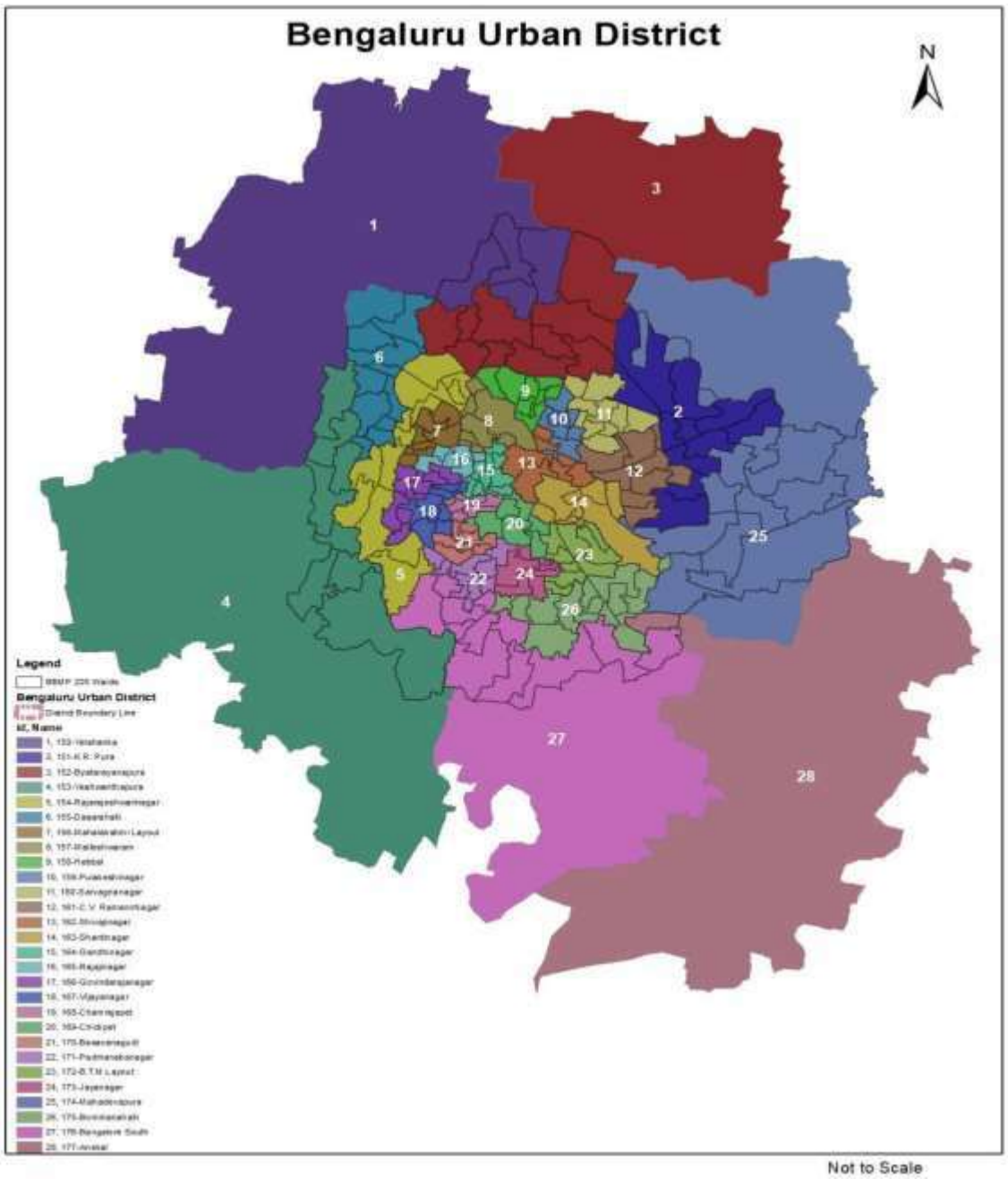


Figure 1: Map of Bengaluru Urban District



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1.4 Population growth

Bengaluru underwent swift expansion during the period from 1941 to 1951, becoming the sixth-largest city in India by 1961. Between 1991 and 2001, Bengaluru emerged as the fastest-growing metropolis in India, experiencing a remarkable growth rate of 38% during that decade. In the 2001 census, the city's population was recorded at 56.86 lakh, but the new draft of the City Development Plan by BDA considered the inclusion of population in peripheral villages, estimating the metropolitan area's population to be 61.70 lakh.

The population growth of Bengaluru is evident when comparing census figures from 1981, 1991, 2001, 2011, and beyond, with the city's population standing at 2.92 million, 4.13 million, 5.10 million, and 8.42 million, respectively. Projections suggest that the population of Bengaluru Urban Agglomeration (BUA i.e. BBMP Population and Urban District) is estimated at approximately 13.32 million (excluding Floating Population) and 14.77 Million (including Floating Population) for 2023. A key factor contributing to this substantial growth is the cosmopolitan nature of the city, drawing people from diverse locations, particularly as a prominent IT hub in South India.

With the rapid urbanization, waste generation has surged drastically, placing considerable strain on all civic infrastructure services, including Solid Waste (SWM) management. This Estimated Planned Capacity has been estimated for the year 2030 – the population is estimated to grow at 3.8% with waste per capita considered as 400g per capita for Bengaluru & BUD, and 100g per capita for floating population.

1.5 Bruhat Bengaluru Mahanagara Palike (BBMP)

Bruhat Bengaluru Mahanagara Palike (BBMP) is the Nodal agency for this project and the administrative body responsible for civic amenities and social infrastructural development for the Bengaluru. Also, the Bruhat Bengaluru Mahanagara Palike has a council that consists of 225 elected members of councillors, each representing a ward for public administration. Both the mayor and deputy mayor are chosen from the councillors itself for a period of 1-year term to 5-year term. For a more efficient and effective administration, the Bengaluru City has been divided into 8 different administrative zones/ Sanitary Zones covering 225 administrative or political wards.

Hierarchical Mapping of Bengaluru City

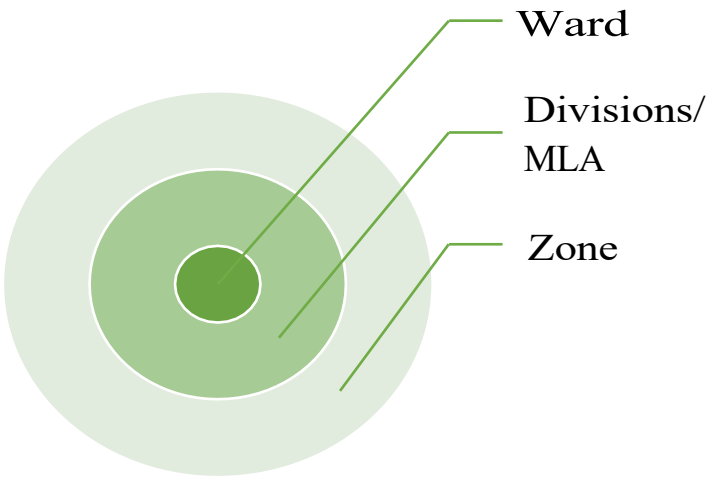

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Figure 2: Hierarchical Mapping of Bengaluru City

The most elementary administrative division within Bengaluru city, overseen by the BBMP, is the ward, where councilors are elected. There are 225 wards, each falling within the divisions/MLA constituencies of the Karnataka State Legislative Assembly, totaling 30 such divisions/constituencies. These, in turn, are organized under eight zones to facilitate the efficient and effective management of BBMP's operations.

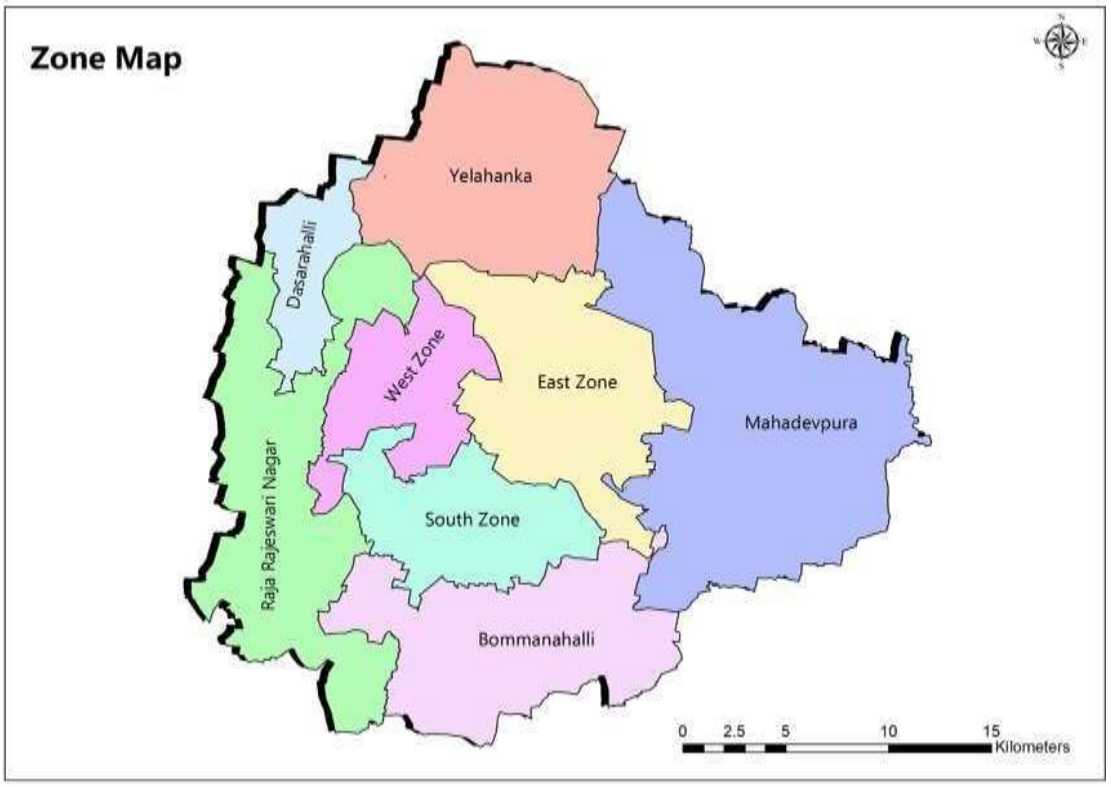

Figure 3: Zone wise map

1.6 Bengaluru Solid Waste Management Limited (BSWML)

Bengaluru Solid Waste Management Limited (BSWML) is a government owned company / exclusive set up made by the Bruhat Bengaluru Mahanagara Palike (BBMP) with independent Board to implement and execute specific solid waste management (SWM) projects to deliver efficient and affordable Integrated Solid Waste Management Project / Infrastructure to the citizens of Bengaluru. Thus, BSWML is the project implementation and monitoring authority for the proposed project.

Bengaluru Solid Waste Management Limited is chaired by Additional Chief Secretary of Government of Karnataka (G.o.K)/ UDD. The Chief Commissioner/BBMP is the Managing Director. The Special Commissioner (BBMP - HQ) is the CEO of the BSWML. There is a Board of Directors constituted as per the rules of the company. The overall technical matters shall be reviewed through the technical committee appointed by the company as per the extent of the rules.

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2. EXISTING SYSTEM OF SOLID WASTE MANAGEMENT IN BENGALURU

2.1 Historical Perspective of SWM In Bengaluru

Bengaluru has played a pioneering role in shaping the key milestones of Solid Waste Management (SWM) at the national level. Some noteworthy achievements include:

- The establishment of India's first solid waste processing plant by the Karnataka Compost Development Corporation (KCDC) at Kudlu, Bengaluru in 1975, which remains operational to this day.
- The initiation of the first decentralized community compost unit in Bengaluru by the NGO Waste Wise Trust in 1988.
- The commencement of the first door-to-door collection of segregated waste in Bengaluru by Acts Trust and the Centre for Environment Education in 1990.
- The establishment of the first citizen forum dedicated to addressing SWM, known as the Swabhimana Initiative, for the Bengaluru City Corporation (BCC) in 1998.
- The creation of India's second dry waste collection center in Bengaluru in 2013.
- Bengaluru's recognition as the Best Self Sustainable Mega City in Swachh Sarvekshan 2020.

2.2 Overview of Existing System for Municipal Solid Waste Management

1. Bengaluru Solid Waste Management Limited is headed by the Chairman and Managing Director/Commissioner of BBMP and Director/Additional Commissioner/ Special Commissioner (SWM.)
2. BSWML through BBMP looks after the effective collection, transportation, processing and disposal of solid waste management. The BBMP is carrying out collection, street sweeping, transportation, processing and disposal of Solid Waste from generators. BBMP has a system of door to door collection for collecting the SW. The SW collected has to be processed before land filling. BBMP has taken several steps to streamline the SW management in the city.

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Figure: 4: BBMP Existing system

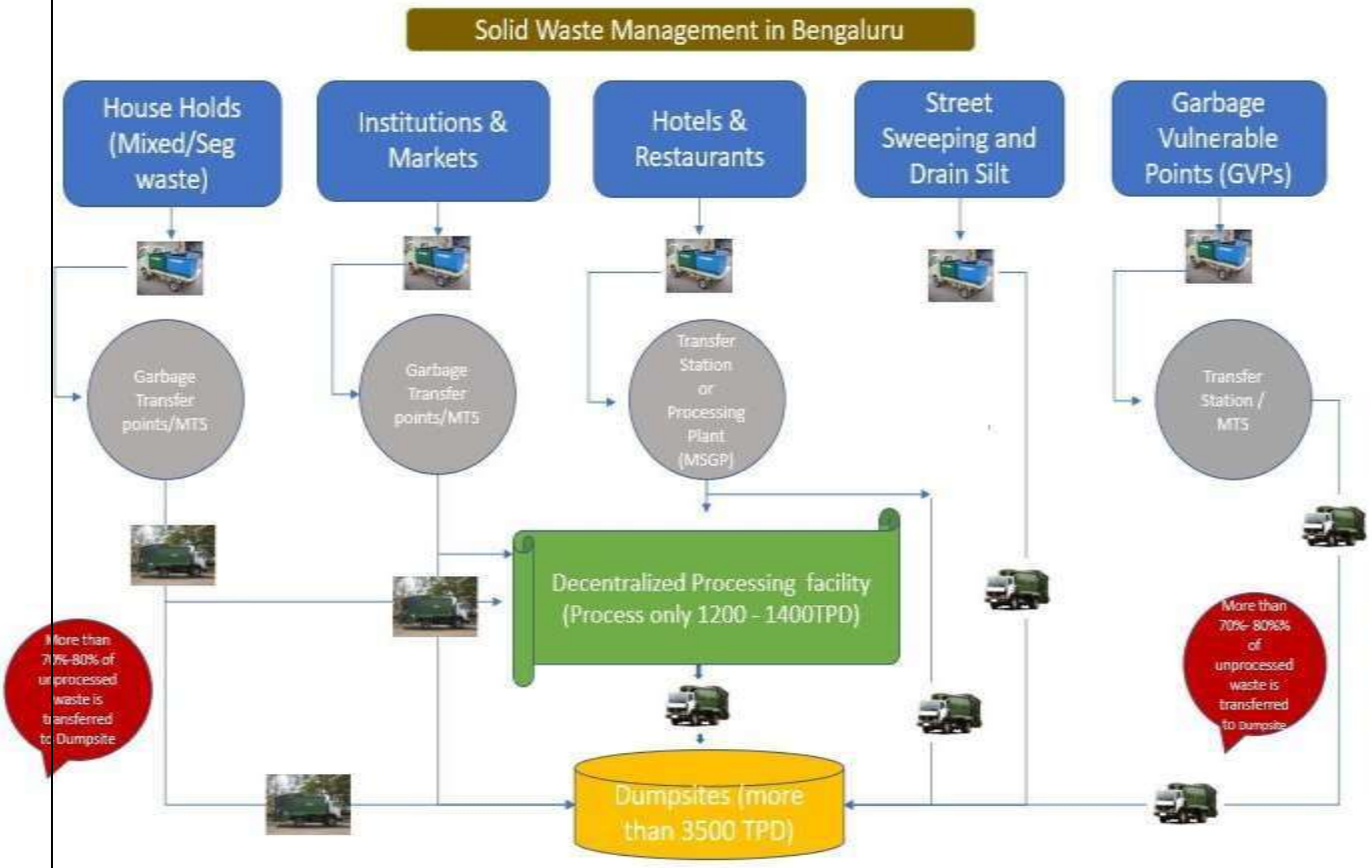
Solid Waste Management in Bengaluru
House Holds (Mixed/Seg waste)
Institutions & Markets
Hotels & Restaurants
Street Sweeping and Drain Silt
Garbage Vulnerable Points (GVPs)
Garbage Transfer points/MTS
Garbage Transfer points/MTS
Transfer Station or Processing Plant (MSGP)
Transfer Station / MTS
Decentralized Processing facility (Process only 1200 - 1400TPD)
More than 70%- 80% of unprocessed waste is transferred to Dumpsite
More than 70%- 80% of unprocessed waste is transferred to Dumpsite
Dumpsites (more than 3500 TPD)

Figure: 5: BBMP Existing system

3. The Waste Generated are collected, recycled/ processed and disposed by Bengaluru Solid Waste Management Limited. This waste includes waste collected from households, commercials, institutions, street sweeping, drain cleaning and bulk waste generators.

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4. The solid waste management practices in Bengaluru involve several components, including waste segregation at source level, doorstep collection, transportation, processing, and disposal.
5. IEC activities are being intensified and penalties are being levied for non-compliance. The households are required to segregate their wastes into two categories namely wet and dry waste.

School children learn about the valuable contribution of waste-pickers in reducing the amount garbage in the city,
Source: wakeupcleanup.tumblr.com

Figure 6: Awareness to school children

6. Domestic Hazardous waste from household hazardous waste like discarded medicine, sanitary napkins, diapers, batteries, paints etc is collected separately.
7. Burning of Leaves has been prohibited in the city. Awareness is being created on the same Instructions have also been given for composting of leaf litter in nearby parks and open spaces.
8. Municipal workers and private contractors collect waste from households, commercial establishments, and public places (GVPs- Garbage Vulnerable points). There are different bins for segregated wet (organic) and dry (non-organic) waste in the Auto Tippers. The waste collection is divided into different zones or wards. Segregation at source is encouraged to separate organic waste from dry waste. Residents are encouraged to segregate waste into separate bins, promoting better recycling and processing efficiency. Collected waste is loaded onto waste collection vehicles, including compactors and tippers. These vehicles transport waste to waste processing centres or landfills.

For reference purpose only

From October 1st onwards, BBMP will collect only WET and SANITARY waste DAILY
DRY waste will be collected WEEKLY
OUR WASTE OUR RESPONSIBILITY
Wet waste
Join hands to create a garbage-free Bangalore
Bruhat Bangalore Mahanagara Palike

L: Hoarding displayed on important street junctions, R: Poster informing citizens about segregation and collection regime

Figure 7: IEC Material

2.3 Waste Characterization

Information on the nature of wastes, its composition, physical and chemical characteristics and the quantities generated are basic requirements for conceptualizing & designing solid waste management plans. As urbanization has grown, along with shifts in dietary choices and lifestyles, the volume of Municipal Solid Waste has increased substantially, leading to noticeable fluctuations in waste composition. The changes in the composition of SW should form essential criteria for any waste management system. Hence, the data available on the composition of the waste from different sources over the years have been collected and analysed. The constituents of an MSW may be classified as:

Biodegradable: Organic materials, which can be degraded by biological agents, e.g. microbes are known as biodegradable. Examples are food material, fruit and vegetable waste, garden waste (plant waste) etc.

Recyclables: Plastic, metal etc.

Combustibles: Relatively dry material having a high calorific value, such as cardboard, etc. are known as combustibles.

Domestic hazardous waste: means discarded paint drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles and syringes and contaminated gauge, etc., generated at the household level.

Inerts: means waste which are not biodegradable, recyclable or combustible street sweeping or dust and silt removed from the surface drains.

Waste Characterization Report is made as a detailed assessment based on the following: -

Waste characterization Report by BBMP

Waste Characterization Report by Sky Group in DPR for GVPs

For reference purpose only

2.3.1 BBMP Reports

The data presented in was statistically analysed to get the variations of a different type of waste in rapidly growing cities like Bengaluru (figures in percentage).

Year	Biodegradable	Paper/ leather/ cardboard	Rubber/ debris	Glass	Plastic	Metals	Others
2013	61	9	4	1	7	1	16
2017	59	12	5	3	12	1	8

Source: BBMP

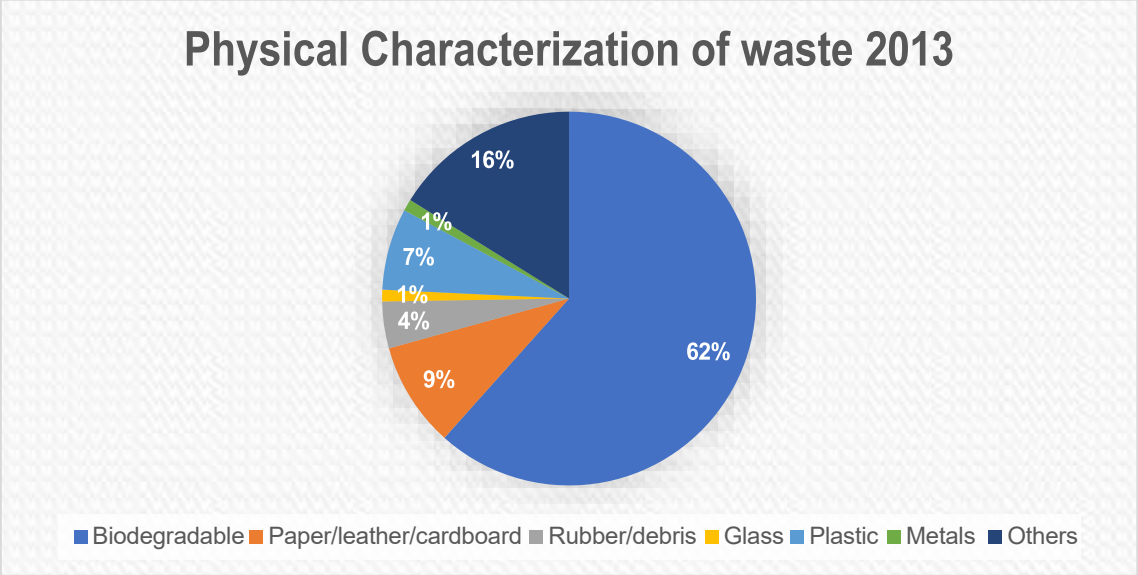

Figure 23: Physical Characterization of waste 2013 (For Reference)

The graph above represents the results of a waste characterization study for the year 2013, sourced from Bruhat Bengaluru Mahanagara Palike (BBMP). This study involves the physical characterization of different types of waste generated during the specified year, categorizing them into various material types. Here's an interpretation of the graph.

1. **Biodegradable**: This category accounts for 61% of the waste generated in 2013. Biodegradable waste typically includes organic materials like food scraps, yard waste, and other items that can decompose naturally.
2. **Paper/Leather/Cardboard**: This category represents 9% of the waste. It includes items such as paper products, leather items, and cardboard packaging.
3. **Rubber/Debris**: This category makes up 4% of the total waste. It may encompass rubber materials and general debris or non-recyclable waste.
4. **Glass**: Only 1% of the waste generated in 2013 falls into the "Glass" category. This typically refers to glass bottles, containers, and other glass-based products.
5. **Plastic**: The "Plastic" category accounts for 7% of the waste. This includes various plastic items like packaging, bottles, and other plastic waste materials.

For reference purpose only

6. **Metals**: The "Metals" category represents 1% of the total waste and includes metal items such as aluminium cans and other metal-based products.
7. **Others**: This category includes 16% of the waste. "Others" is a broad category that might include miscellaneous items that don't fit neatly into the other categories, like textiles, ceramics, or items made from composite materials.

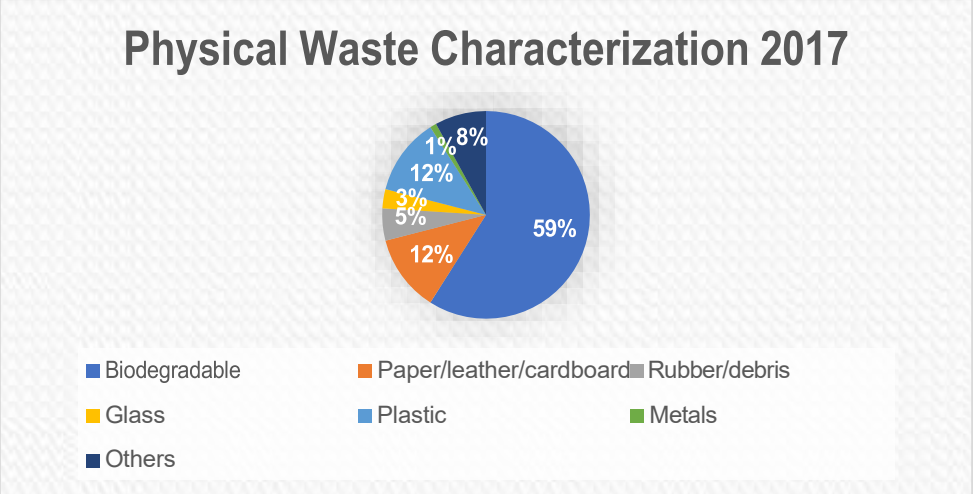

Figure 24: Physical Characterization of waste 2017 (For Reference)

The graph above shows data on waste characterization (Physical Characterization) for the year 2017, sourced from the Bruhat Bengaluru Mahanagara Palike (BBMP). Here's the interpretation of the table:

1. **Biodegradable**: Biodegradable waste accounts for 59% of the total waste generated in 2017. This category typically includes organic materials that can naturally decompose, such as food scraps, yard waste, and other organic matter.
2. **Paper/Leather/Cardboard**: The "Paper/Leather/Cardboard" category represents 12% of the waste. It includes items like paper products, leather items, and cardboard packaging.
3. **Rubber/Debris**: This category makes up 5% of the total waste. It may encompass rubber materials and general debris or non-recyclable waste.
4. **Glass**: Glass waste represents 3% of the total waste generated in 2017. This category includes glass bottles, containers, and other glass-based products.
5. **Plastic:** The "Plastic" category accounts for 12% of the waste. It includes various plastic items like packaging, bottles, and other plastic waste materials.
6. **Metals**: The "Metals" category represents 1% of the total waste and includes metal items such as aluminium cans and other metal-based products.
7. **Others**: This category accounts for 8% of the waste. "Others" is a broad category that might include miscellaneous items that don't fit neatly into the other categories, such as textiles, ceramics, or items made from composite materials.

Further details of the above data can be seen below:

For reference purpose only

Table 13: Waste Characterization by BBMP (For Reference)

SL. NO.	TYPE OF WASTE	WASTE COMPOSITION (%)
1	Vegetable	30 %
2	Paper	8 %
3	Plastic	12 %
4	Cardboard	4 %
5	Textiles	4 %
6	Grass/ leaves/ wood	6 %
7	Leather	0 %
8	Electronic Item	2 %
9	Metal	1 %
10	Organic	23 %
11	Glass	3 %
12	Debris	5 %
13	Biomedical	2 %
TOTAL		**100%**

Source: BBMP,2017

2.3.2 Survey

A survey was undertaken to assess the physical characteristics of waste over a seven-day period in November 2023. The resultant data has been analysed and presented in the form of a pie chart, aiming to enhance clarity in designing a robust Solid Waste Management structure. This framework is intended to accommodate and process waste efficiently and effectively.

a) Procedure for Waste Characterization

To carry out the waste characterization, Solid waste of 10 kgs was collected from various locations (Garbage transfer points) of the town. The waste collected was then thoroughly mixed and reduced by applying the coning and quartering method (IS: 9235 – 1979). The representative quantity of waste was subjected to physical analysis, determination of moisture and then the sample is processed for further chemical analysis. (IS: 9234 - 1979, IS: 10153 – 1982, IS: 8769 – 1978, IS: 1350 – 1974).

The physical characteristics like moisture content, density, percentage of different components, such as paper, plastic, glass, metal, organic matter, sand, soil, bricks, stones etc. were calculated.

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b) Physical Composition of Waste (For Reference)

Table 15: Physical Waste Characterization as per Survey (For Reference)

Physical Waste Characterization as per Survey								
	SURVEY DATES							
Particulars	**22-Nov-23**	**23-Nov-23**	**24-Nov-23**	**25-Nov-23**	**26-Nov-23**	**27-Nov-23**	**28-Nov-23**	**Average**
Vegetable & Food Waste	36.62%	38.31%	36.06%	41.13%	38.87%	41.69%	40.00%	38.95%
Fine organic matters	22.89%	23.94%	22.54%	25.70%	24.30%	26.06%	25.00%	24.35%
Grass	1.95%	2.04%	1.92%	2.19%	2.07%	2.22%	2.13%	2.07%
Leaves	1.95%	2.04%	1.92%	2.19%	2.07%	2.22%	2.13%	2.07%
Wood	1.30%	1.36%	1.28%	1.46%	1.38%	1.48%	1.42%	1.38%
Paper	5.31%	6.37%	6.64%	4.78%	6.11%	5.58%	6.00%	5.83%
Plastic	8.85%	10.62%	11.06%	7.96%	10.18%	9.29%	10.00%	9.71%
Cardboard	1.33%	1.59%	1.66%	1.19%	1.53%	1.39%	1.50%	1.46%
Textile	1.77%	2.12%	2.21%	1.59%	2.04%	1.86%	2.00%	1.94%
Leather	0.09%	0.11%	0.11%	0.08%	0.10%	0.09%	0.10%	0.10%
Metal	0.88%	1.06%	1.11%	0.80%	1.02%	0.93%	1.00%	0.97%
Glass	1.77%	2.12%	2.21%	1.59%	2.04%	1.86%	2.00%	1.94%
Debris	13.00%	5.00%	8.00%	8.00%	6.00%	3.50%	5.00%	6.93%
WEE Item	0.57%	0.86%	0.86%	0.29%	0.57%	0.43%	0.400%	0.57%
Sanitary Waste	1.43%	2.14%	2.14%	0.71%	1.43%	1.07%	1.000%	1.42%

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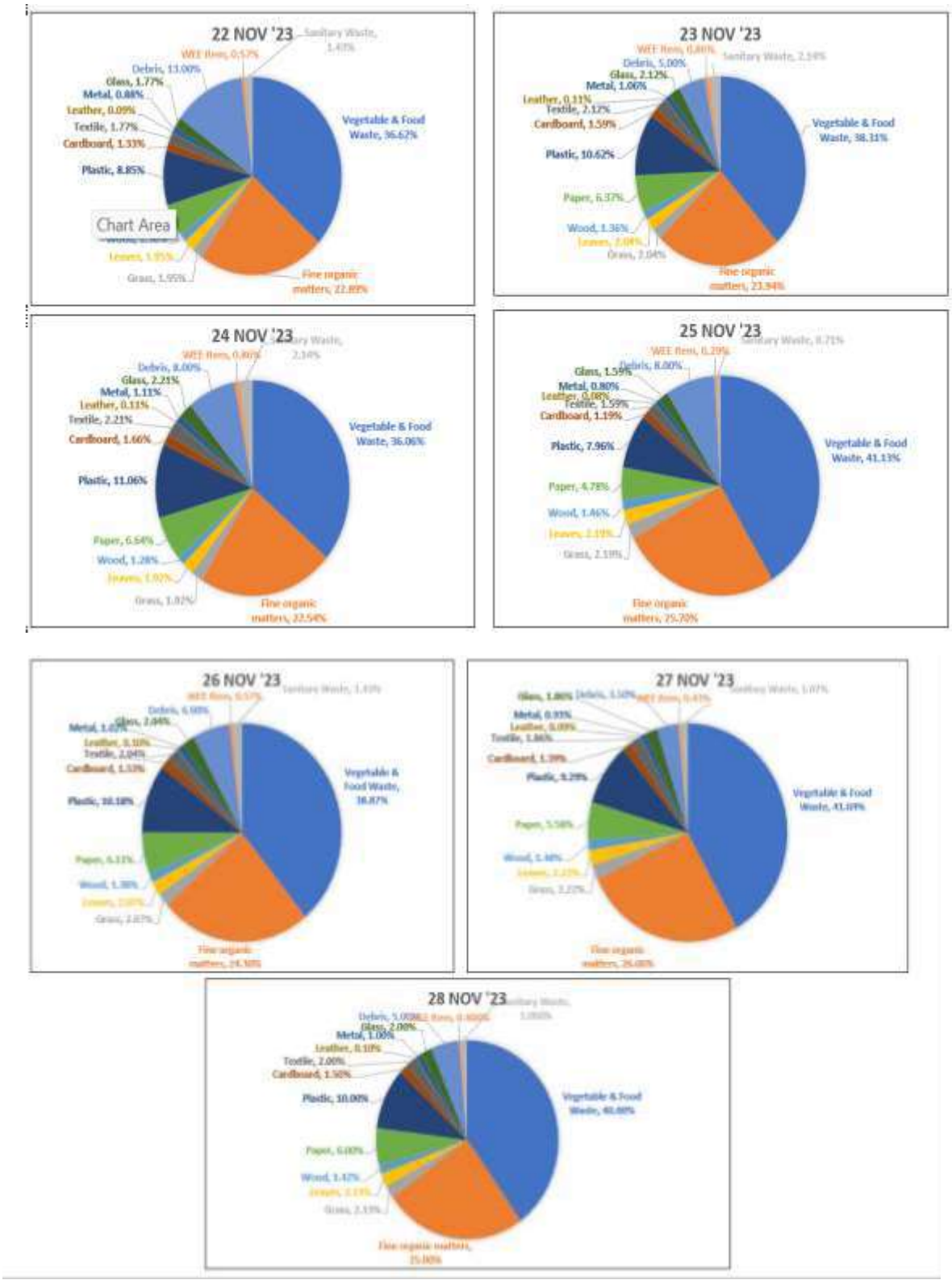

Figure 25: Physical Waste Characterization as per Survey

For reference purpose only

From the above survey, the Inferences are as follows: -

Item	22-Nov	23-Nov	24-Nov	25-Nov	26-Nov	27-Nov	28-Nov	Average
Organic Waste (Vegetable & Food waste, Grass, leaves, wood, fine organic matters etc.)	65%	68%	64%	73%	69%	74%	71%	69%
Recyclables (Leather, Plastics, Paper, Cardboard, Metals, Glass, etc.)	20%	24%	25%	18%	23%	21%	23%	22%
Inert (from the domestic sweeping and other activities)	13%	5%	8%	8%	6%	4%	5%	7%
Others (WEE Item, Sanitary Waste, etc.)	2%	3%	3%	1%	2%	2%	1%	2%

Table 16: Inferences from survey

NOTE: The reports/ information provided in the PIM to give a fair idea to the intending bidders. However, the intending bidders need to study the city scenario, jurisdictions, waste characterization and assess on their method of arriving at the waste quantity, quality and its physical and chemical compositions to establish the processing facilities as per the SWM rules 2016/ SBM-2.0 or any other statutory rules prevailing in India.

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3. DETAILS OF THE PROPOSED PROJECT

3.1 Scope of work

Name of the work: Appointment of Concessionaire on Tipping Fee basis to execute the Comprehensive Integrated Solid Waste Management facilities including Secondary Transportation of MSW from Transfer Stations to designated Processing Center(s) and further Processing and Disposal of the same.

North Package: comprises of the 4 Zones of BBMP – Yelahanka, Dasarahalli, West, and, East, along with neighboring areas of the Bangalore Urban District;

South Package: comprises of the 4 Zones of BBMP – Rajarajeshwari Nagar Zone, Mahadevapura Zone, South Zone, and Bommanahalli Zone, along with neighboring areas of the Bangalore Urban District, as detailed in Annexure I of the RFP.

Introduction

An Integrated Solid Waste Management (ISWM) facility has been conceptualized to offer a comprehensive solution for the processing of solid waste generated in Bengaluru City, at various locations as per project requirements. The ISWM Project involves secondary transportation of municipal waste and further processing solid waste into new or recycled products through methods such as composting, bio-methanation, waste-to-energy from RDF, pelletization, or other proven technologies, in accordance with the standards outlined in the Background Documents, Solid Waste Management Rules 2016, NGT orders, SBM 2.0, and other applicable laws and amendments during the concession period.

The aim is to process all waste generated and generate revenue by applying circular economy principles, thereby reducing the burden on landfills. This shall be achieved through an integrated system of secondary transport, processing and disposal. The entire system shall comply with the Solid Waste Management Rules, 2016 and meet the KPIs outlined in Article 19 of the DCA.

The scope of the Project (the—Scope of the Project) shall mean and include, during the Concession Period, Design, Build, Finance, Operate and Transfer (DBFOT) of facilities and infrastructure for:

a. Transportation of MSW from the Transfer Stations
b. O&M and Maintenance of Transfer Stations
c. Design, Development, Operation, Maintenance, and Management of Integrated Processing Facility for MSW
d. Design, Development, Operation, Maintenance, and Management of Sanitary Landfill for disposal of remnants and residual inert matters from processing of MSW
e. Generation of revenue from sale of reusables and recyclables (if any), sale of by-products or output from processing of MSW (like gas, electricity, etc.), and generation of financial benefits from carbon credits

A. Secondary collection, segregation, and transportation of MSW

The Concessionaire shall be responsible for the following tasks related to Secondary Transportation, starting from at least [90 (ninety)] days prior to COD, or within 90

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(ninety) days from the date of handover of the Transfer Station(s) to the Concessioniare in that division.

a. **Transportation of MSW from the Transfer Stations:** The Authority/Authority's agencies will bring in MSW generated in the Project Area and the waste collected from the street sweeping activity to the Transfer Stations. The Concessionaire shall be required to transport the waste from the Transfer Stations, starting from the Date of Commercial Operation (considering Mobilization Period as per the Agreement) or from the handover of the Transfer Station, whichever is later till the expiry of the Concession Period. The same shall be done in an order to ensure the following:

   i. **Transport to Concessionaire's processing facilities:** Concessionaire shall be responsible to conduct Secondary Transportation from the transfer stations to their designated waste processing and disposal site(s) (Note: There are some divisions where Transfer Stations exist and are being operated by another agency contracted by the Authority, wherein the responsibility for Secondary Transport will be handed over to the Concessionaire at the expiry of the existing contracts. More details are given in Annexure 1 of the PIM.)

   ii. **Integration with existing plants for BSWML**: Concessionaire shall be responsible to conduct Secondary Trasport from the notified Transfer Stations to Existing plants where BBMP has existing commitments (Annexure 1 of the PIM for details regarding location, capacity and type of waste required, tagging with transfer stations, duration of commitment)

   iii. **Integration with Dry Waste Collection Centers (DWCCs):** Concessionaire shall be required to collect the dry waste from the DWCCs and perform Secondary Transport from the DWCCs to the designated waste processing and disposal site(s) after extraction of recyclable materials by ragpickers. Refer Annexure 1 of PIM for details regarding DWCCs in the package, location, capacity, assets included, layout, manpower engaged, etc. These will continue to be operated by the ragpickers associations, as per current scenario.

b. **Operation & Maintenance and Management of Transfer Stations:** Some Transfer Stations in this package are currently operational and operated by agencies contracted by the Authority. Refer Annexure 1 of the PIM for details regarding the current operator, assets in place, layout, duration of existing contract and scope of work for each of them. These (and the responsibility for Secondary Transportation under these Transfer Stations) will be handed over to the Concessionaire after a period of 5-7 years, as soon as the current agreement expires. Until such time, the Concessionaire will not be responsible for operation of Transfer Station or to perform Secondary Transport in these respective areas.

   Wherever a Transfer Station doesn't currently exist, Authority shall be responsible to construct and handover Transfer Stations to the Concessionaire at their own cost, including civil structures, machinery, containers, hookloaders, etc. The Authority plans to develop such Transfer Stations in this package within the next 1-2 years. Refer Annexure 1 of the PIM for details regarding location, capacity, details regarding assets and layout of the planned Transfer Stations. As soon as a new Transfer Station is constructed, it shall be handed over to the Concessionaire along with scope of Secondary Collection & Transportation in that area. Until such time, the Secondary Transportation in that area shall be done by the Authority/contractors of the Authority engaged in Primary C&T. (All the Transfer Stations, existing and new, being handed over shall include hook- loaders and containers provided by the Authority on an as-is, where-as basis.)

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Until the facility COD is achieved, the Concessionaire shall transport waste from the new Transfer Stations to designated place as notified by the Authority within the aggregate lead distance considered.

Irrespective of the date of handover of the Transfer Stations to the Concessionaire, all Transfer Stations and the scope of work therein shall be handed back to the Authority 30 years from the date of the COD of the processing & disposal facility.

The Authority shall have no obligation to perform any additional capital expenditure towards the Transfer Stations of vehicles over the course of the Concession Period pertaining to the Project Area, and the same shall be in the scope of the Concessionaire.

B. Processing & Disposal of MSW as per SWM Rules

1. **Design, Development, Operation, Maintenance, and Management of Integrated Processing Facility**: It is proposed to develop new facilities for Processing & Treatment of MSW as per MSW Rules and other applicable regulations for MSW processing, resource recovery, treatment, and disposal (P&D) facilities. Concessionaire shall develop the Project Facilities using technology or technologies that it had proposed in its Bid to the RFP, adhering to Solid Waste Management Rules, 2016 and in accordance with terms of this Agreement. Concessionaire shall be responsible for Construction of the Integrated Processing Facility within 24 months from handover of the site or getting Environmental Clearance and Consent to Establish, whichever is later; and operating the same for 30 years post COD.
2. **Design, Development, Operation, Maintenance, and Management of Sanitary Landfill for disposal of remnants and residual inert matters from processing of MSW:** It is proposed to develop new sanitary disposal landfill and a leachate treatment plant (LTP) for management of inerts to be landfilled after processing of MSW. Concessionaire shall be responsible to transport inert and post-processing inert materials from their own processing sites to the landfills. Concessionaire shall be responsible for Construction of the Sanitary Landfill and the Leachate Treatment Plant (as per discretion of the Concessionaire) within 24 months from handover of the site or getting Environmental Clearance and Consent to Establish,, whichever is later; and operating the same for 30 years post COD. Furthermore, the Concessionaire shall be responsible for performing post-closure activities as per prevailing guidelines of Central Pollution Control Board, State Pollution Control Board, SWM Rules, etc. over the next 15 years to ensure proper closure of the landfill.
3. The **revenue or income from the sale of segregated useful materials**, including reusable and recyclable materials (if any), compost, soil conditioner, raw RDF, C&D waste, soil, power, electricity, or any other by-products, shall accrue to the Concessionaire. The Concessionaire shall also be responsible to take necessary action to accrue benefits from Carbon Credits, and subsequently share 50% of the benefits accrued from the Carbon Credits of the Project with the Authority.

ii. Bulk Waste management:

a. The management of bulk waste shall not be included within the Concessionaire's scope. However, the Concessionaire shall be empaneled as an Authorized Waste Processor for bulk waste as per existing bylaws of the BBMP and BSWML and encouraged to collect, transport, and process bulk waste at the ISWM facility. The Concessionaire shall be allowed to charge a Service Fee to BWGs, in line with the "Polluter Pays" principle of SWM Rules, 2016. The Concessionaire is to conduct their own analysis and survey of

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the bulk waste generated to ascertain the processing capacity of the plant(s) required.

b. Since this is a commercial activity conducted on government land, the Concessionaire shall remit INR 800 per TPD of bulk waste handled. This amount shall be escalated by 5% every year in line with the escalation in the tipping fee).

All BWGs shall be audited by the Authority/BBMP as per prevailing regulations and reporting requirements. Those entities found deficient shall be directed to employ the services of the Concessionaire for the purpose of management of the bulk waste generated by them.

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Planned Project Capacity

i. The comprehensive Integrated Solid Waste Management (ISWM) Project is intended to cover the entire jurisdictional area encompassing the full extent of BBMP limits and the Bengaluru Urban District area. This area is distributed across two packages, with the jurisdiction pertaining to North Package detailed more precisely and annexed as Annexure-I of the RFP.

ii. Based on 2011 Census data, waste generation (excluding bulk waste) within the Project Area has been projected for 2030. While the facility is expected to commence operations around the year 2028, the waste generation estimates have been calculated for 2030 in order to account for full operational capacity and long-term planning.

North Package: By 2030, the total municipal solid waste from households and street-sweeping activities—excluding bulk waste—is expected to be 4,047 tonnes of waste per day (TPD). Of this, 976 TPD is already committed to existing facilities for P&D. Once these commitments are accounted for, the Package shall have to deal with 3,822 TPD for Secondary Transportation and 3,073 TPD for Processing and Disposal.

South Package: By 2030, the total municipal solid waste from households and street-sweeping activities—excluding bulk waste—is expected to be 4,113 tonnes of waste per day (TPD). Of this, 1,113 TPD is already committed to existing facilities for P&D. Once these commitments are accounted for, the Package shall have to deal with 3,900 TPD for Secondary Transportation and 2,999 TPD for Processing and Disposal.

iii. The proposed planned capacity has been assessed and planned to meet the projected demand of Year 2030. Due to variations on a daily basis, the Concessionaire must accept maximum up to 125% of the Planned Capacity on any given day. As the waste generated within the Project Area increases over time, the Authority shall be free to execute other processing and/or disposal projects by calling tenders; wherein the Concessionaire shall have the First Right of Refusal for participation in such tenders, provided that the Concessionaire bids within 10% of the Preferred bidder. For the avoidance of doubt, it is hereby clarified that, for any new tenders pertaining to Processing and/or Disposal of municipal solid waste in the Project Area, the Concessionaire shall be invited to match the bid of the Preferred bidder, subject to the condition that the Concessionaire's bid is within 10% of the Preferred bidder.

iv. The Authority shall provide a Minimum Waste Guarantee, i..e, minimum amount of waste that shall be delivered to the Transfer Stations (excluding the amount committed to existing plants) equal to 50% of the Planned P&D Capacity in the first 5 years after COD, and equal to 75% of the Planned P&D Capacity thereafter. This shall include the waste from Bulk Waste Generators, if any, accepted for processing by the Concessionaire.

Planned Capacity	Secondary Transportation (TPD)	Processing & Disposal (TPD)
North Package	3,822	3,073
South Package	3,900	2,999

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Detailed Scope of Work:

A Scope of work for Secondary Transportation:

a. The average trip distance considered for secondary transportation—from the Transfer Station to the entry point of the processing plant up to the weighbridge—is estimated at 75.00 kilometers for **North Package** and 40.00 km for **South Package**. However, this distance may vary depending on the final locations of the Transfer Stations and the processing facility. In cases where the actual average trip distance varies by more than 10% from the estimated average, the additional lead distance for secondary transportation shall be considered for reimbursement, subject to the prior approval of the Authority. The final average trip distance shall be established based on the confirmed location of the weighbridge at the processing plant.

b. Secondary transportation shall be executed using large-sized static compactors capable of compressing municipal solid waste. Leachate generated during the compaction process shall be collected through designated leachate collection pits. The compacted waste shall be stored in containers provided by the static compactors and transported using hook loaders.

c. The Concessionaire shall submit a comprehensive plan and route map detailing the methodology for the secondary transportation of Municipal Solid Waste (MSW).

d. The jurisdictional area under the scope of this North Package comprises sixteen (16) divisions and under South Package comprises 14 (fourteen) divisions. Each division shall be provided with a Transfer Station, to be developed by BSWML and subsequently handed over to the respective Concessionaire for that jurisdiction. a Project level, three (3) transfer stations are currently under AMC contracts with a tenure of seven years. Upon termination of these contracts and based on mutual consent between the Authority and the Concessionaire, these transfer stations shall be handed over on an as-is basis, along with the Secondary Transportation (C&T) scope under the corresponding ISWM package. Four (4) new transfer stations, currently under construction, shall be handed over to the Concessionaire along with the Secondary Transportation scope of the respective ISWM package. The additional transfer stations required under the respective package shall be developed by the Authority at its own cost and handed over to the Concessionaire in a phased manner, along with the corresponding Secondary Transportation responsibilities. The same shall be completed within the first 2 years from the Execution Date. Package-wise details of the Transfer Stations are provided in Annexure 1 of PIM.

e. The operation and maintenance of Transfer Stations handed over to the Concessionaire shall be the sole responsibility of the Concessionaire throughout the Concession Period.

f. MSW operations are essential in nature and should have a continuity without any interrupt. The Concessionaire should work out a detailed plan with the Authority. The detailed transition plan shall be submitted by the Concessionaire within 90 days of appointment date and approved by the Authority and the same shall be implemented. While implementing the transition plan there should be a smooth and seamless handing over and taking over of the operations and public should not get any inconvenience of disruption of service.

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g. The Concessionaire shall be responsible for identifying suitable land parcels and establishing the required infrastructure, including vehicle parking yards, workshops, canteens, and administrative buildings, in accordance with operational and regulatory requirements. These facilities are to be developed in each Zone at the Concessionaire's own cost and maintained in compliance with prevailing statutory and safety norms. The Concessionaire shall indemnify the Client against any liabilities arising from fire, health, or environmental hazards at these locations.

h. The commencement of Secondary Transportation activities shall be undertaken by the Concessionaire in a phased manner, subject to the completion or termination of contracts that may be active within each respective Zone.

i. The Concessionaire shall initiate the operation and maintenance of Transfer Stations, including storage, handling of waste, and transportation of Refuse-Derived Fuel (RDF) from designated Dry Waste Collection Centers (DWCCs) (as per Annexure 1 of PIM) to the Project facilities or to the existing commitment plants (as per Annexure 1 of PIM), immediately upon execution of the Concession Agreement. Delays in commencement of any activity under the agreed scope of work shall attract penalties in accordance with the Key Performance Indicators (KPIs) specified under Article 19 of the Concession Agreement.

Compliance

j. Each vehicle must display the designated route map and be integrated with the Integrated Command and Control Centre (ICCC) of the Authority via the Concessionaire's own software. The Concessionaire shall be responsible for completing all necessary activities, including obtaining statutory clearances related to land development, and mobilization/procurement of equipment, vehicles, machinery, and other resources essential for the transportation of MSW from the BBMP jurisdiction and Bengaluru Urban District areas, as specified for Package-1 in Annexure-1 of the RFP document.

k. The Concessionaire shall provide real-time data feeds and monitoring capabilities to BSWML to ensure continuous oversight of vehicle movements and operational transparency throughout the concession period.

l. A Vehicle Tracking and Management System (VTMS) shall be mandatorily installed on all vehicles, containers, and weighbridges used for MSW transportation and post-processing reject disposal. The VTMS shall be a web-based application with real-time GPS tracking, GIS integration, and client-side connectivity at all key locations, including the weighbridge.

m. The Concessionaire shall supply all necessary hardware and infrastructure, including personal computers/laptops, printers, GPS devices, network links, SIM cards/dongles, and antivirus software. VTMS data shall be integrated with BSWML's municipal server via the IT Department, and training shall be provided to municipal and Authority staff. Vehicles shall be equipped with loading/unloading switches. Availability of VTMS data shall be a mandatory requirement for tipping fee disbursement.

n. All vehicles must be fully connected to the BSWML server through VTMS to enable uninterrupted tracking and monitoring. Each vehicle shall also be fitted with a GPS device that remains operational at all times, with the live feed integrated into

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BSWML's monitoring platform and website.

o. All vehicles deployed shall comply with prevailing emission norms, and valid Fitness Certificates (FCs) must be obtained from the RTO as per statutory requirements.

p. Noise and air pollution levels shall be monitored in line with norms prescribed by the RTO and Karnataka State Pollution Control Board (KSPCB). Relevant certificates shall be obtained periodically and prominently displayed on each vehicle.

B. Scope of work for Processing and Disposal:

a. The Estimated waste quantum of the package has been arrived as 3,073 TPD for **North Package** and 2,999 for **South Package** towards Processing & Disposal which excludes bulk waste to be transported as well as discounts the Waste to be supplied to the existing commitments of corresponding package.

b. The Concessionaire shall prepare a comprehensive proposal for processing the total estimated waste, and undertake the design, development, operation, and maintenance of new integrated Solid Waste (SW) Processing, Resource Recovery, Treatment, and Disposal (P&D) facilities. The proposal shall incorporate appropriate technologies for processing the waste received at the plant. The technologies proposed must be in line with those approved under SWM Rules, 2016 (or any amendments thereof), or any other technologies approved by the CPCB, State PCB, or other relevant statutory bodies in India or abroad.

c. The Concessionaire shall undertake the planning, engineering, designing, construction, operation, and maintenance of MSW Processing, Resource Recovery, Treatment, and Disposal (P&D) facilities, including a scientifically engineered sanitary landfill, Leachate Treatment Plant (LTP), and all auxiliary infrastructure such as stormwater drainage, internal roads, weighbridges, vehicle parking yards, workshops, canteens, administration buildings, laboratories, and other appurtenant structures as per operational and regulatory requirements.

d. The Concessionaire shall establish the required number of processing/ resource recovery projects, which may include waste-to-energy projects, bio-methanation, composting, compressed bio-gas (CBG) projects, MRF facilities, or any other suitable and sustainable technologies. These technologies must conform to SWM Rules, 2016 (or any amendments thereof), or be approved by the CPCB, State PCB, or other statutory bodies, and shall be implemented either at locations indicated by the Authority or at alternative sites approved by the Authority.

e. The Concessionaire shall install weighbridges at both the entry and exit points of the processing plant. Both weighbridges shall be synchronized with GPS and RFID mechanisms, at locations and configurations as deemed appropriate and mutually agreed upon with the Authority.

f. The Concessionaire shall also develop waste management facilities for the treatment and disposal of dead animals, sanitary waste, and any other waste types as authorized by the Authority as per the SWM Rules of 2016.

g. The successful Bidder is at liberty to choose the Proven and demonstrated technology in the beginning and during the course of the project. Any advanced technology which can improve the performance shall be permitted unconditionally. The technologies may be Compost / RDF / Waste to Energy / Bio Methanation / Dry Methanation / Pyrolysis / Plasma or any other technology which is proved and can

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be implemented to improve the processing and disposal is within the scope of the Concessionaire but should meet the SWM Rules, 2016 & SBM 2.0 guidelines.

h. Authority desires that its Solid Waste Management system shall be a 'model system' for the Country, which would scientifically collect waste from waste generator and bulk generators, transport, process and dispose of Municipal Solid Waste to have maximum recycling and recovery, Without prejudice to the generality of the foregoing, Concessionaire shall have the right to develop the Project Facilities using such technology that it considers suitable and commercially viable for the purposes of implementing the Project, in accordance with terms of this Agreement and Applicable Law. It is acknowledged that it is the intention of Concessionaire to use the technology associated with the concept of an integrated waste processing plant, the specifications of which are given in schedule 23, and that Concessionaire shall have the right to modify, adapt, upgrade or change the technology, from time to time, based on actual operations of the Plant and requirements of the Project.

i. The revenue or the income from the sale of the segregated useful material such as reusables and recyclables, compost, soil conditioner, user charges from bulk waste generators, raw RDF, C&D, Soil, sale of power, electricity or any other by-product materials shall be in the scope of the Concessionaire and Concessionaire shall take such additional revenue into account while estimating the tipping fee sought.

C. Items excluded from Scope of work

The following nature of scope is not considered as the part of Concessionaire's scope of work under this Agreement:

a. Receive, manage, process or dispose Bulk Waste Generated
b. Receive, manage, process or dispose Biomedical Waste Management
c. Receive, manage, process or dispose Industrial Waste Management
d. Sweeping of streets (Manual and/or Mechanical)
e. Drain cleaning / Silt clearing
f. Maintenance / cleaning of parks
g. Maintenance of public places / toilets
h. Removing and Transportation of carcasses (dead animals)
i. Management of Domestic Hazardous Waste: Hazardous waste such as physical, chemical, biological, reactive, toxic, flammable, explosive, or corrosive waste, if found, during excavation, sorting or segregation shall be stored in a separate area for inspection by authorities of the Municipal Corporation, which will arrange to shift, transport, and dispose by authority as per the Hazardous and Other Waste (Management and Transboundary Movement) Rules, 2016.

   It is hereby clarified that the Concessionaire may undertake management of bulk waste and/or domestic hazardous waste as per the applicable rules and regulations at no cost to the Authority, and at their own discretion.

3.2 Geographical division of packages across Zones/Divisions

1. **The distribution of the wards and population in each package is as follows:**

Package-1: North: Yelahanka zone, Dasarahalli Zone, East Zone and West Zone

Table 18 (a): The distribution of Ward and Population in North Package.

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Zone	Division	Sub-Division	Population 2023
Yelahanka Zone	Yelahanka	Yelahanka BBMP	134789
		Yelahanka Bangalore Urban District (Chikballapur)	103648
		Yelahanka Sattelite Town BBMP	133518
	Byatarayanapura	Byatarayanapura BBMP	123612
		Byatarayanapura Bangalore Urban District (Bangalore North)	64128
		Kodigehalli BBMP	115386
		Vidyaranyapura BBMP	346583
		Hosakote Bangalore Urban District (Chikballapur)	2711
Dasarahalli Zone	Dasarahalli	Shettyhalli BBMP	134363
		Dasarahalli BBMP	124621
		Peenya Industrial Area BBMP	61111
	Hegganahalli	Peenya Industrial Area BBMP	66011
		Hegganahalli BBMP	317122
East Zone	Hebbal	Hebbal BBMP	220896
		Hebbal Bangalore Urban District (Bangalore North)	2603
		J C Nagar BBMP	221483
	Pulikeshinagar	Kadugondanahalli BBMP	237834
		Pulikeshinagar BBMP	171178
	Sarvagna Nagar	Maruthisevanagar BBMP	242073
		HBR Layout BBMP	345301
	C V Raman Nagar	Jeevan Bhim Nagar BBMP	177045
		C V Raman Nagar BBMP	293502
	Shivajinagar	Shivajinagar BBMP	169727
		Vasanthnagar BBMP	161513
	Shanthinagar	Shanthinagar BBMP	164379

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Zone	Division	Sub-Division	Population 2023
		Domlur BBMP	229917
West Zone	Malleswaram	Mathikere BBMP	166121
		Malleswaram BBMP	214962
	Gandhinagar	Gandhinagar BBMP	215304
		Chickpet BBMP	173383
	Rajajinagar	Sriram Mandira BBMP	177009
		Rajajinagar BBMP	186620
	Govindaraja Nagar	Govindaraja Nagar BBMP	272491
		Chandra Layout BBMP	205808
	Chamarajpet	J.J.R. Nagar BBMP	209713
		Chamarajpet BBMP	161787
	Mahalakshmipura	Mahalakshmipura BBMP	243119
		Nagpura BBMP	248238
Total BBMP + BUD Population			**68,39,609**
Floating Population in North Package			**4,89,207**
Total Population in North Package (2023)			**73,28,816**
Total Population in North Package (2030)			**95,15,142**

South Package - South: RR Nagar Zone, Mahadevpura Zone, South Zone and Bommanahalli Zone

Table 1 The distribution of Ward and Population in South Package.

Zone	Division	Sub-Division	Population 2023
Rajarajeshwari Nagar Zone	Rajarajeshwari Nagar	Rajarajeshwari Nagar BBMP	125796
		Laggere BBMP	105824
		Lakshmidevi Nagar BBMP	127225
	Yeshwanthpur	Yeshwanthpur BBMP	357582

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Zone	Division	Sub-Division	Population 2023
		Yeshvanthapura Bangalore Urban District (Bangalore North)	118076
	Kengeri	Kengeri BBMP	181460
		Herohalli BBMP	265838
		Bangalore South Bangalore Urban District (Bangalore Rural)	110482
		Anekal Bangalore Urban District (Bangalore Rural)	113315
Mahadevapura Zone	K.R. Puram	Horamavu BBMP	117999
		K.R. Puram BBMP	255400
		K.R. Pura Bangalore Urban District (Bangalore North)	6467
		HAL Airport BBMP	325944
	Mahadevapura	Hoodi BBMP	131283
		Whitefield BBMP	177006
		Marathalli BBMP	367526
		Mahadevpura Bangalore Urban District (Bangalore Central)	38018
South Zone	Padmanabhanagar	Padmanabhanagar BBMP	227679
		Banashankari BBMP	251602
	Jayanagar	Jayanagar BBMP	241996
		J P Nagar BBMP	117564
	BTM Layout	BTM BBMP	239583
		Koromangala BBMP	272495
	Chickpet	Kempegowdanagar BBMP	242101
		Hombegowdanagar BBMP	124498
	Vijayanagar	Vijayanagar BBMP	228482
		Gali Anjaneyaswamy Temple BBMP	278994
	Basavanagudi	Basavanagudi BBMP	179680
		Girinagar BBMP	200880

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Zone	Division	Sub-Division	Population 2023
Bommanahalli Zone	Bommanahalli	H S R Layout BBMP	113603
		Bommanahalli BBMP	177629
		Bommanahalli Bangalore Urban District (Bangalore South)	1274
		Arakere BBMP	434008
	Uttarahalli	Uttarahalli BBMP	126128
		Yelachenahalli BBMP	119501
		Anjanapura BBMP	121718
		Begur BBMP	64187
	Anjanapura	Begur BBMP	54763
			209266
Estimated Total BBMP + BUD Population			**69,52,872**
Estimated Floating Population in South Package			**4,89,207**
Estimated Total Population in South Package (2023)			**74,42,079**
Estimated Total Population in South Package (2030)			**9,662,193**

Table 18: Zone wise Population and waste estimate

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3.3 Proposed Plan for the Project

Based on 2011 Census data and an annual population growth rate of 3.8%, waste generation within the Project Area has been projected for 2030. This projection uses a daily per capita rate of 400 grams for the resident population and 100 grams for the floating population, excluding bulk waste. While the facility is expected to commence operations around the year 2028, the waste generation estimates have been calculated for 2030 in order to account for full operational capacity and long-term planning. By 2030, the total municipal solid waste from households—excluding bulk waste—is expected to be about 7,290 tonnes per day (TPD). The project scope also covers street-sweeping waste collected by BBMP, recorded at 670 TPD in 2023 (as per the DPR study on Garbage Vulnerable Points), which is projected to 870 TPD in 2030 using the same annual growth rate of 3.8%.

Estimated Waste Generated in the Project Area			
For Year 2030	**Population (Million)**	**Per capita Waste (gm/day/capita)**	**Waste Generated (TPD)**
BBMP	17.2	400	6,872
Urban District	0.7	400	291
Floating	1.3	100	127
Sub-Total	**19.2**	**-**	**7,290**
Street-sweeping	**-**	**-**	**870**
Total	**-**	**-**	**8,160**

The Project Area includes several existing waste processing facilities, to which BSWML has prior commitments for waste supply. These facilities fall into two categories: decentralized plants, which are smaller and located within the city, and centralized plants, which are larger and situated on the outskirts. Further details are provided in the Table below.

Approximate BSWML commitments to existing plants			
Type of Waste	**Decentralized (TPD)**	**Centralized (TPD)**	**Total Quantity (TPD)**
Sanitary waste	25	0	25
Animal waste	8	0	8
Wet waste	105	750+300	1,155
Dry waste	300	600	900
Total	**438**	**1,650**	**2,088**

The responsibility for secondary transportation to decentralized facilities (within the city) does not fall under the scope of this tender and will instead be carried out by the Primary Collection & Transport vendor(s). As a result, the associated waste quantity of 438 tons per day (TPD) is excluded from both secondary transportation and processing and disposal. With this adjustment, the total waste quantity for secondary transportation under this tender is estimated at 7,722 TPD.

Furthermore, waste allocated to existing facilities (such as the MSGP and Bidadi KPCL WTE plants) under existing contractual obligations will not be available to the Concessionaire for processing. The Concessionaire's responsibility is limited to secondary transportation of this waste.

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Consequently, the total quantity of waste available for processing and disposal within the Concessionaire's scope is 6,072 TPD.

Table 3 below summarizes the capacities to be managed through secondary transportation and processing and disposal (P&D) for each waste category, after considering these existing contractual commitments.

Estimated Mass Profile of Waste to be managed				
Type of Waste	**% of Waste**	**Waste Generated (TPD)**	**Waste for Secondary Transport (TPD)[a]**	**Waste for P&D (TPD)[b]**
Dry Waste	43%	3,135	2,946	2,235
Wet Waste	50%	3,638	3,419	2,483
Sanitary waste	1%	73	48	48
Animal waste	1%	73	65	65
Animal carcass	0%	7	7	7
Domestic hazard waste	1%	73	73	73
Stones	1%	73	73	73
Silt & Inerts	2%	146	146	146
Debris	1%	73	73	73
Leachate[c]	5%			182
Part 1 (Total)	**100**	**7,290**	**6,852**	**5,202**
Street-sweeping Dry	85%	739	739	739
Street-sweeping Wet	15%	130	130	130
Part 2 (Total)	**100**	**870**	**870**	**870**
Total waste		**8,160**	**7,722**	**6,072**

a. After subtracting de-centralized BSWML commitments to existing plants as per Table 2
b. After subtracting centralized BSWML commitments to existing plants as per Table 2
c. Leachate is considered as 5% of the Wet Waste.

Secondary Transportation

In order to carry out the Secondary Transportation of MSW, BSWML will provide key infrastructure for secondary waste transportation, including hook-loaders and containers, along with Transfer Stations on an as-is where-is basis. Hook-loaders and container, operated by a two-person team, have a 10-year service life and must be replaced thereafter by the Developer. Parking stations, workshops, and administrative offices will be have to be constructed under the Project as well.

The developer shall be responsible for creating the most optimal transport routes to ensure high efficiency while meeting project KPIs.

For reference purpose only

Estimated requirement for Secondary Transportation			
Package	**No. of containers**	**No. of trips per Hook loader**	**Approximate Hookloaders required**
North Package	**306**	**2**	**186**
South Package	**312**	**2**	**190**

Processing & Disposal

The waste allocated for Processing and Disposal (P&D) may be further distributed as per the table below:

Indicative Waste Allocation across units for P&D		
#	**Facility**	**Input material**
1.	Waste to Energy Plant	Dry waste from MSW (excluding recyclables and inerts) + rejects from Bio-methanation
2.	Bio-methanation	Wet waste from MSW + wet waste from street-swept waste
3.	Composting	Wet waste from MSW + wet waste from street-swept waste
4.	Landfill	Stones/silt/inerts from MSW + dry waste from street-swept waste + rejects from WTE plant
5.	Animal rendering plant	Animal waste from meat shops
6.	Sanitary waste incineration	Sanitary waste
7.	Animal incineration	Animal carcass
8.	Leachate treatment plant	Leachate

The following estimated capacities may be considered for meeting the Processing and Disposal (P&D) requirements under the Integrated Solid Waste Management (ISWM) project. These figures are indicative and intended solely for reference. Developers are expected to conduct their own due diligence, including independent assessments and analysis, to determine the appropriate configuration and capacity of processing units. These estimates should not be construed as prescriptive or as representing the minimum required capacities to be established.

Indicative Capacity for Processing & Disposal				
Planned Capacity (TPD)		**North Package**	**South Package**	**Total**
Bio Methanation	TPD	1,123	1,556	2,679
Composting	TPD	125	173	298
WTE	TPD	1,238	701	1,938
Animal Rendering	TPD	28	37	65

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Indicative Capacity for Processing & Disposal				
Animal Carcass	TPD	4	4	7
Sani waste	TPD	21	27	48
Sorting Facility	TPD	1,301	1,273	2,574
Leachate Treatment Plant	TPD	180	183	364
MRF Facility	TPD	488	477	965

Revenues from Processed materials

Apart from the **tipping fee**, which is payable by the Authority based on actual tonnage handled across two components: **Secondary Transportation,** and **Processing & Disposal (P&D),** four other streams of revenue may be considered for the developer (indicative list, not exhaustive):

- Sale of biogas produced at bio-methanation plants
- Sale of electricity generated from waste-to-energy (WTE) facilities
- Sale of recovered recyclables processed at Material Recovery Facilities (MRFs)
- Sale of by-products from animal rendering to piggeries, etc.

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6. LIST OF ANNEXURES

Annexure 1:

For reference purpose only

A. List of Transfer Stations [LTS: Large Transfer Station; MTS: Mini Transfer Station]

Table: List of Transfer Stations						
No.	**Package**	**Status (Operational/under construction/to be constructed)**	**Capacity/Proposed Capacity (in Ton)**	**Operated by (if any)**	**O&M Contract End Date (if any)**	**Location/Proposed Location**
1	North Package	LTS-Chamarajpete (Operational)	150 TPD	M/s Parishudh Ventures	Dec-31	Adjacent to Binny mills, Chamarajpete
2	North Package	LTS-Sarvagnanagara (under construction)	150 TPD	M/s Parishudh Ventures	Yet to be confirmed	HBR Layout
3	North Package	LTS-Malleshwaram (To be constructed)	150 TPD		Yet to be confirmed	Malleshwaram
4	North Package	LTS-Rajajinagara (To be constructed)	150 TPD		Yet to be confirmed	Rajajinagara
5	North Package	LTS-Govindaraj Nagara (To be constructed)	250 TPD		Yet to be confirmed	Govindaraj Nagara
6	North Package	LTS-Mahalaxmi Layout (To be constructed)	250 TPD		Yet to be confirmed	Mahalaxmi Layout
7	North Package	LTS-Gandhinagara (To be constructed)	250 TPD		Yet to be confirmed	Gandhinagara
8	North Package	LTS-Pulakeshinagara (To be constructed)	250 TPD		Yet to be confirmed	Pulakeshinagara
9	North Package	LTS-Shnathinagara (To be constructed)	250 TPD		Yet to be confirmed	Shnathinagara
10	North Package	LTS-Hebbal (To be constructed)	250 TPD		Yet to be confirmed	Hebbal
11	North Package	LTS-CV Ramanagara (To be constructed)	250 TPD		Yet to be confirmed	CV Ramanagara

For reference purpose only

Table: List of Transfer Stations

No.	Package	Status (Operational/under construction/to be constructed)	Capacity/Proposed Capacity (in Ton)	Operated by (if any)	O&M Contract End Date (if any)	Location/Proposed Location
12	North Package	LTS-Shivajinagara (To be constructed)	250 TPD		Yet to be confirmed	Shivajinagara
13	North Package	LTS-Yelahanka (To be constructed)	250 TPD		Yet to be confirmed	Yelahanka
14	North Package	LTS-Byatarayanapura (To be constructed)	250 TPD		Yet to be confirmed	Byatarayanapura
15	North Package	LTS-Dasarahalli (To be constructed)	250 TPD		Yet to be confirmed	Dasarahalli
16	North Package	LTS-BUD (To be constructed)	250 TPD		Yet to be confirmed	To be decided
17	North Package	MTS-East Zone, CVRaman Nagara division, Ward 58- New Tippasandra (Operational)	30 TPD	M/s TPS Infrstructure	Apr-29	New Tippasandra
18	North Package	MTS-East Zone, Shivajinagara Division,Ward 90 -Ulsoor (Under Additional Construction Progress)	30 TPD	M/s TPS Infrstructure	Yet to be confirmed	Ulsoor
19	North Package	MTS-East Zone, Shanthinagara divison, ward 111- Shanthala Nagar (Operational)	30 TPD	M/s TPS Infrstructure	Aug-30	Shanthala Nagar
20	North Package	MTS-East Zone, shanthinagar Division,ward- 112 Domlur (Operational)	30 TPD	M/s TPS Infrstructure	Aug-30	Domlur

For reference purpose only

Table: List of Transfer Stations

No.	Package	Status (Operational/under construction/to be constructed)	Capacity/Proposed Capacity (in Ton)	Operated by (if any)	O&M Contract End Date (if any)	Location/Proposed Location
21	North Package	MTS-East Zone, Hebbal division ,Ward 18 -radhakrishna temple (Operational)	30 TPD	M/s TPS Infrstructure	Jan-28	radhakrishna temple
22	North Package	MTS-Yelahanka Zone, Byatarayanapura Divsision, Ward no.11, Singapore (Under Additional Construction Progress)	30 TPD	M/s TPS Infrstructure	Yet to be confirmed	Singapore
23	North Package	MTS-West Zone, Gandhi Nagara Division- Ward no 94-Gandhi Nagara (Under Additional Construction Progress)	30 TPD	M/s TPS Infrstructure	Yet to be confirmed	Gandhi Nagara
24	North Package	MTS-West Zone, Mahalaxmi Layout Division, Ward no 44-Marappan Palya, (Operational)	30 TPD	M/s TPS Infrstructure	Dec-30	Marappan Palya
25	North Package	MTS-Dasarahalli Zone, Dasarahalli Division, , Ward no 12-Shetty Halli (Operational)	30 TPD	M/s TPS Infrstructure	Feb-29	Shetty Halli
26	North Package	MTS-Dasarahalli Zone, Dasarahalli Division, , Ward no 13-Mallasandra (Under Additional Construction Progress)	30 TPD	M/s TPS Infrstructure	Yet to be confirmed	Mallasandra

For reference purpose only

Table: List of Transfer Stations

No.	Package	Status (Operational/under construction/to be constructed)	Capacity/Proposed Capacity (in Ton)	Operated by (if any)	O&M Contract End Date (if any)	Location/Proposed Location
27	North Package	MTS-Dasarahalli Zone, Dasarahalli Division, , Ward no 39-Chokkasandra (Under Additional Construction Progress)	30 TPD	M/s TPS Infrstructure	Yet to be confirmed	Chokkasandra
28	North Package	MTS-Dasarahalli Zone, Dasarahalli Division, , Ward no 14-Balagagunte (Operational)	30 TPD	M/s TPS Infrstructure	Feb-32	Balagagunte
29	South Package	LTS- BTM Layout Koramangala (Operational)	150 TPD	M/s Parishudh Ventures	Yet to be confirmed	Ejipura, Ward-148
30	South Package	LTS- Jayanagara (To be constructed)	150 TPD		Yet to be confirmed	Jayanagara
31	South Package	LTS- Chickpete (To be constructed)	250 TPD		Yet to be confirmed	Chickpete
32	South Package	LTS- Padmanabhanagara (To be constructed)	250 TPD		Yet to be confirmed	Padmanabhanagara
33	South Package	LTS- Vijayanagara (To be constructed)	250 TPD		Yet to be confirmed	Vijayanagara
34	South Package	LTS- Basavanagudi (To be constructed)	150 TPD		Yet to be confirmed	Basavanagudi
35	South Package	LTS- RR Nagara (To be constructed)	250 TPD		Yet to be confirmed	RR Nagara
36	South Package	LTS- Kengeri (To be constructed)	250 TPD		Yet to be confirmed	Kengeri

For reference purpose only

Table: List of Transfer Stations

No.	Package	Status (Operational/under construction/to be constructed)	Capacity/Proposed Capacity (in Ton)	Operated by (if any)	O&M Contract End Date (if any)	Location/Proposed Location
37	South Package	LTS- Mahadevapura (To be constructed)	250 TPD		Yet to be confirmed	Mahadevapura
38	South Package	LTS- KR Puram (To be constructed)	250 TPD		Yet to be confirmed	KR Puram
39	South Package	LTS- Bommanahalli (To be constructed)	250 TPD		Yet to be confirmed	Bommanahalli
40	South Package	LTS- Bangalore South Division (To be constructed)	250 TPD		Yet to be confirmed	Bangalore South Division
41	South Package	LTS- BUD -1 (To be constructed)	250 TPD		Yet to be confirmed	To be decided
42	South Package	LTS- BUD-2 (To be constructed)	250 TPD		Yet to be confirmed	To be decided
43	South Package	MTS-Rajarajeshwari Nagara Zone, Yeshwanthapura (Kengeri) division, ward no 130- Ullal (Operational)	30 TPD	M/s TPS Infrstructure	Jan-28	Ullal
44	South Package	MTS-Rajarajeshwari Nagara Zone, Rajarajeshwari Nagara division, ward no 73- Kottigepalya, (Operational)	30 TPD	M/s TPS Infrstructure	Dec-27	Kottigepalya
45	South Package	MTS-Rajarajeshwari Nagara Zone, Rajarajeshwari Nagara division, ward no 42- Lakshmidevinagar (Operational)	30 TPD	M/s TPS Infrstructure	Jun-29	Lakshmidevinagar

For reference purpose only

Table: List of Transfer Stations

No.	Package	Status (Operational/under construction/to be constructed)	Capacity/Proposed Capacity (in Ton)	Operated by (if any)	O&M Contract End Date (if any)	Location/Proposed Location
46	South Package	MTS-Rajarajeshwari Nagara Zone, Kengeri division Ward 198 hemmigepura (Operational)	30 TPD	M/s TPS Infrstructure	Dec-30	hemmigepura
47	South Package	MTS-Bommanahalli Zone,,Bengaluru South division ward 196- Anjanapura (Operational)	30 TPD	M/s TPS Infrstructure	Dec-30	Anjanapura
48	South Package	MTS-Bommanahalli Zone,,Bengaluru South division ward 194- Gottigere (Operational)	30 TPD	M/s TPS Infrstructure	Jan-31	Gottigere
49	South Package	MTS-Bommanahalli Zone,,Bengaluru South division Ward 192 - Begur (Operational)	30 TPD	M/s TPS Infrstructure	Dec-30	Begur
50	South Package	MTS-Bommanahalli Zone,Bengaluru South division, ward 197-Vasnathapura (Operational)	30 TPD	M/s TPS Infrstructure	Jan-28	Vasnathapura
51	South Package	MTS-South Zone, BTM Layout Division,Ward 151 - Koramangala(Operational)	30 TPD	M/s TPS Infrstructure	Mar-30	Koramangala
52	South Package	MTS-South Zone, Chickppete division, ward 118-JC road (Operational)	30 TPD	M/s TPS Infrstructure	Jan-28	JC road

For reference purpose only

Table: List of Transfer Stations

No.	Package	Status (Operational/under construction/to be constructed)	Capacity/Proposed Capacity (in Ton)	Operated by (if any)	O&M Contract End Date (if any)	Location/Proposed Location
53	South Package	MTS-Mahadevpura Zone, Mahadevapura Division Ward no.149, Varthur (Under Additional Construction Progress)	30 TPD	M/s TPS Infrstructure	Yet to be confirmed	Varthur
54	South Package	MTS-Mahadevapura Division, K.R. Puram division,ward 56-A.Narayanapura (Under Additional Construction Progress)	30 TPD	M/s TPS Infrstructure	Yet to be confirmed	A.Narayanapura
55	South Package	MTS-Mahadevpura Zone, Mahadevapura Division Ward no.85, Doddenakundi (Under Additional Construction Progress to be takenup)	30 TPD	M/s TPS Infrstructure	Yet to be confirmed	Doddenakundi
56	South Package	MTS-(Under Additional Construction Progress)pura Division Ward no.85, Doddenakundi (Under Additional Construction To be taken up)	30 TPD	M/s TPS Infrstructure	Yet to be confirmed	Doddenakundi

For reference purpose only

B. Typical Contents of Transfer Stations

Mini Transfer Station:

Typical Layout of Transfer Station

Mini Transfer Station - 30*40 Shed

List of assets included in a Transfer Station

2 Portable Compactors

1 Hook loader

1 Building/Shed With WWPL Collection Tank & Toilet

1 DG Set

1 Fire Extinguisher

Large transfer Station:

Typical Layout of Transfer Station

1 Tipper Bay and Container change over bay

1 hook loader

1 Roof truss

1 Leachate Tank

List of assets included in a Transfer Station

2 Stationary Compactors

6 hook loaders

13 nos 20 Cum Containers

2 weigh Bridge

For reference purpose only

C. Existing Commitments of BSWML

No.	Package	Name of Plant	Type of Plant (WTE/Bio-meth, etc)	Type of Waste to be delivered	Operated by (Name of contractor)	Commitment End Date	Location
1	North	MSGP Plant	Composting	Wet	MSGP	Oct-34	Chigarenhalli, Doddabelavnagala Hobli
2	North	Kogilu Bio-meth plant	Bio-meth	Wet	M/s Om Aparajite LLP	Yet to be confirmed (15 years from COD)	Kogilu Sy No. 99, W No. 05
3	North	Kogilu Sani-waste processing plant	Sani waste	Sani Waste	M/s Om Aparajite LLP	Yet to be confirmed (15 years from COD)	Kogilu Sy No. 99, W No. 06
4	North	Kogilu Animal Rendering Plant	Animal waste rendering	Animal waste	M/s Om Aparajite LLP	Yet to be confirmed (15 years from COD)	Kogilu Sy No. 99, W No. 07
5	North	Kogilu Animal Carcasses Incineration	Animal Incineration	Animal Carcasses	M/s Om Aparajite LLP	Yet to be confirmed (15 years from COD)	Kogilu Sy No. 99, W No. 08
6	North	Mattikere - 35 West zone	Biometh	Wet	M/s Carbon Masters	Sep-29	Mattikere
7	North	Gandhinagar - 94 West zone	Biometh	Wet	M/s Carbon Masters	Sep-29	Gandhinagar
8	North	Kuvempu Nagar - 11, Yelahanka zone	Biometh	Wet	To be repaired	Yet to be confirmed (5 years from COD)	Kuvempu Nagar
9	North	SKR Market - 139, West zone	Biometh	Wet	M/s Carbon Masters	Yet to be confirmed (5 years from COD)	SKR Market
10	North	Domlur - 112 East zone	Biometh	Wet	M/s Carbon Masters	Sep-29	Domlur - 112

For reference purpose only

No.	Package	Name of Plant	Type of Plant (WTE/Bio-meth, etc)	Type of Waste to be delivered	Operated by (Name of contractor)	Commitment End Date	Location
11	North	Domlur - 112 East zone (New)	Biometh	Wet	M/s Carbon Masters	Yet to be confirmed (15 years from COD)	Domlur - 112 (New)
12	North	Kalyana Nagara - East Zone (New)	Biometh	Wet	M/s Carbon Masters	Yet to be confirmed (15 years from COD)	Kalyana Nagara - (New)
13	South	GAIL Plant	Biometh	Wet	GAIL	Yet to be confirmed (30 years from COD)	KCDC - Kudlu
14	South	Waste to Energy Bidadi Plant	WTE	RDF	KPCL	Yet to be confirmed (30 years from COD)	Bidadi
15	South	Gunjur Sani-waste processing plant	Sani waste	Sani Waste	M/s Om Aparajite LLP	Yet to be confirmed (15 years from COD)	Gunjur
16	South	Jayanagar- 168, South zone	Biometh	Wet	M/s Carbon Masters	Sep-29	Jayanagar
17	South	KCDC - 191, Bommanahalli zone	Biometh	Wet	To be repaired		KCDC
18	South	Begur - 192 Bommanahalli zone	Biometh	Wet	To be repaired		Begur
19	South	Varthur - 149, Mahadevapura zone	Biometh	Wet	M/s Carbon Masters	Yet to be confirmed (5 years from COD)	Varthur
20	South	Lingadheeranahalli - 198, RR Nagara zone	Biometh	Wet	M/s Carbon Masters	Yet to be confirmed (5 years from COD)	Lingadheeranahalli
21	South	Koramangala -151, South Zone	Biometh	Wet		Yet to be confirmed (5 years from COD)	Koramangala
22	South	Jayanagara/ Yadiyuru - 167 South Zone	Biometh	Wet	Manjunath Enterprises		Jayanagara/ Yadiyuru

For reference purpose only

No.	Package	Name of Plant	Type of Plant (WTE/Bio-meth, etc)	Type of Waste to be delivered	Operated by (Name of contractor)	Commitment End Date	Location
23	South	Koramangala -151, South Zone (New)	Biometh	Wet	M/s Carbon Masters	Yet to be confirmed (15 years from COD)	Koramangala

For reference purpose only

D. List of DWCCs (Dry Waste Collection Centers)

Table: List of DWCCs

No.	Package	Ward No.	Name of DWCC	Capacity (in Ton)	**Operated by** (Name of contractor/Association, etc)	Location
1	North Package	023	Nagavara	3.0	Waste Pickers/ SHG	Nagavara
2	North Package	024	HBR	3.0	Sugandhira	HBR
3	North Package	029	Kacharakanahalli	0.8	Krishnaveni	Kacharakanahalli
4	North Package	058	New Tippasandara	10.0	Lakshmi	New Tippasandara
5	North Package	079	Sarvagnanagara	1.5	Muthamma	Sarvagnanagara
6	North Package	080	Hoysala Nagar	2.0	Vimala	Hoysala Nagar
7	North Package	113	Konena Agrahara	10.0	Waste Pickers/ SHG	Konena Agrahara
8	North Package	031	Kushal nagar	0.6	Waste Pickers/ SHG	Kushal nagar
9	North Package	032	Kaval Byarasandra	0.9	Waste Pickers/ SHG	Kaval Byarasandra
10	North Package	048	Muneshwara nagar	0.8	Munnavara pasha	Muneshwara nagar
11	North Package	061	S K Garden	0.7	Waste Pickers/ SHG	S K Garden
12	North Package	112	Domlur	3.0	Waste Pickers/ SHG	Domlur
13	North Package	094	Gandhinagar	3.0	Waste Pickers/ SHG	Gandhinagar
14	North Package	077	Dattathreya Temple	0.5	Shankar Enterprises	Dattathreya Temple

For reference purpose only

Table: List of DWCCs

No.	Package	Ward No.	Name of DWCC	Capacity (in Ton)	**Operated by** (Name of contractor/Association, etc)	Location
15	North Package	120	Cottonpet	1.5	Waste Pickers/ SHG	Cottonpet
16	North Package	139	K R Market	0.7	Waste Pickers/ SHG	K R Market
17	North Package	104	Govindarajanagara	0.4	Waste Pickers/ SHG	Govindarajanagara
18	North Package	125	Marenahalli	0.4	Waste Pickers/ SHG	Marenahalli
19	North Package	105	Agrahara Dasarahalli	2.0	Waste Pickers/ SHG	Agrahara Dasarahalli
20	North Package	044	Marappanapalya	0.8	Waste Pickers/ SHG	Marappanapalya
21	North Package	067	Nagapura	0.8	Waste Pickers/ SHG	Nagapura
22	North Package	075	Shankarmutt	0.8	Waste Pickers/ SHG	Shankarmutt
23	North Package	045	Malleshwaram	0.8	Waste Pickers/ SHG	Malleshwaram
24	North Package	064	Rajmahal guttahaali	0.5	Waste Pickers/ SHG	Rajmahal guttahaali
25	North Package	065	kadumalleshwar	1.0	Waste Pickers/ SHG	kadumalleshwar
26	North Package	035	Aramanenagar	5.0	Waste Pickers/ SHG	Aramanenagar
27	North Package	076	Gayatrinagar	5.0	Waste Pickers/ SHG	Gayatrinagar
28	North Package	098	PRAKASHNAGARA	0.5	Waste Pickers/ SHG	PRAKASHNAGARA
29	North Package	041	Peenya Industrial Area	1.0	Geetha	Peenya Industrial Area

For reference purpose only

Table: List of DWCCs

No.	Package	Ward No.	Name of DWCC	Capacity (in Ton)	**Operated by** (Name of contractor/Association, etc)	Location
30	North Package	070	Rajagopal Nagar	11.0	Gopal Krishna	Rajagopal Nagar
31	North Package	001	Kempegowda	3.5	Somiah	Kempegowda
32	North Package	002	Chowdeshwari	3.5	Lakshmi	Chowdeshwari
33	North Package	003	Attur layout	3.5	S Masthan	Attur layout
34	North Package	004	Yelahanka New Town	3.5	Lakshmi Bayi	Yelahanka New Town
35	North Package	005	Jakkur	3.0	Waste Pickers/ SHG	Jakkur
36	North Package	006	Tanisandra	3.0	Waste Pickers/ SHG	Tanisandra
37	North Package	011	Kuvempunagara	3.0	Waste Pickers/ SHG	Kuvempunagara
38	North Package	078	Pulikeshinagar	1.0	Muniyamma	Pulikeshinagar
39	North Package	050	Benniganahalli	2.0	Waste Pickers/ SHG	Benniganahalli
40	North Package	088	Jeevanbhima Nagar	6.0	Waste Pickers/ SHG	Jeevanbhima Nagar
41	North Package	106	Dr|| Rajkumar Ward	0.4	Waste Pickers/ SHG	Dr|| Rajkumar Ward
42	North Package	040	Dodddabidarekallu	3.0	Waste Pickers/ SHG	Dodddabidarekallu
43	North Package	013	Shettihalli	4.0	Waste Pickers/ SHG	Shettihalli

For reference purpose only

Table: List of DWCCs

No.	Package	Ward No.	Name of DWCC	Capacity (in Ton)	**Operated by** (Name of contractor/Association, etc)	Location
44	North Package	086	Marattahalli	4.0	Waste Pickers/ SHG	Marattahalli
45	North Package	128	Nagarabhavi	3.0	Waste Pickers/ SHG	Nagarabhavi
46	North Package	018	Radhakrishna	3.0	Waste Pickers/ SHG	Radhakrishna
47	North Package	019	Sanjaynagar	3.0	Waste Pickers/ SHG	Sanjaynagar
48	North Package	020	Ganganagar	3.0	Waste Pickers/ SHG	Ganganagar
49	North Package	021	Hebbal	3.0	Waste Pickers/ SHG	Hebbal
50	South Package	101	KamakshiPaliya	0.4	Waste Pickers/ SHG	KamakshiPaliya
51	South Package	108	SRIRAMMANDIRA	0.3	Manjula	SRIRAMMANDIRA
52	South Package	146	Lakkasandra	3.0	Kumar	Lakkasandra
53	South Package	151	Koramangala	5.0	Waste Pickers/ SHG	Koramangala
54	South Package	172	Madiwala	3.5	Waste Pickers/ SHG	Madiwala
55	South Package	173 &176	Jakkasandra	5.0	Waste Pickers/ SHG	Jakkasandra
56	South Package	170	Jayanagar East	1.0	Waste Pickers/ SHG	Jayanagar East
57	South Package	177	JP Nagar	2.0	Waste Pickers/ SHG	JP Nagar

For reference purpose only

Table: List of DWCCs

No.	Package	Ward No.	Name of DWCC	Capacity (in Ton)	**Operated by** (Name of contractor/Association, etc)	Location
58	South Package	178	Sarakki	1.2	Waste Pickers/ SHG	Sarakki
59	South Package	123	Vijayanagar	0.7	Waste Pickers/ SHG	Vijayanagar
60	South Package	132	Attiguppe	0.8	Waste Pickers/ SHG	Attiguppe
61	South Package	133	Hampinagara	1.0	Waste Pickers/ SHG	Hampinagara
62	South Package	157	Gali Anjaneya Temple	0.4	Waste Pickers/ SHG	Gali Anjaneya Temple
63	South Package	051	Vijnanapura	1.1	Priyadatshini	Vijnanapura
64	South Package	056	A Narayanapura	1.2	Hombale mahila hokkuta	A Narayanapura
65	South Package	082	Garudacharpalya	1.0	Mahadevapura Mahila Okkuta(Nagarathna)	Garudacharpalya
66	South Package	012	Shettihalli	3.0	Waste Pickers/ SHG	Shettihalli
67	South Package	014	Bagalagunte	1.5	Sridhar	Bagalagunte
68	South Package	039	Chokkasandra	3.5	Chandrappa	Chokkasandra
69	South Package	038	R R NAGARA	1.5	LINGARAJU	R R NAGARA
70	South Package	073	Kottegepalya	4.0	Waste Pickers/ SHG	Kottegepalya
71	South Package	072	Herohalli	2.0	Srinivas(Jothisha)	Herohalli

For reference purpose only

Table: List of DWCCs

No.	Package	Ward No.	Name of DWCC	Capacity (in Ton)	**Operated by** (Name of contractor/Association, etc)	Location
72	South Package	130	Ullalu	3.0	SHG Shubodaya Nirantara ulitaya group	Ullalu
73	South Package	159	Kengeri	2.0	Sree Mahalakhmi Sthri Shakthi sanga	Kengeri
74	South Package	198	Hemmigepura	3.0	Jairam(Kruthika Enterprises)	Hemmigepura
75	South Package	184	Uttrahalli	2.5	Shivalingaiah/Harish Reddy	Uttrahalli
76	South Package	185	Yelachenahalli	1.4	Repon Khan/Sujan	Yelachenahalli
77	South Package	191	Singasandra	2.5	Mizan/ Sunil Reddy	Singasandra
78	South Package	192	Begur	4.2	Mizan/ Sunil Reddy	Begur
79	South Package	194	Gottigere	4.2	Ajay kumar	Gottigere
80	South Package	195	Konanakunte	3.9	Sathya	Konanakunte
81	South Package	196	Anjanapura	1.8	Gopal Biswas/Riyaz	Anjanapura
82	South Package	197	Vasanthapura	2.7	Mohamed Juel/Antony Raj	Vasanthapura
83	South Package	193	Arakere	4.5	Koraban Ali	Arakere
84	South Package	186	Jaraganahalli	1.5	Honnuf Khatun	Jaraganahalli
85	South Package	187	Puttenahalli	4.0	Sudha	Puttenahalli

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Table: List of DWCCs

No.	Package	Ward No.	Name of DWCC	Capacity (in Ton)	**Operated by** (Name of contractor/Association, etc)	Location
86	South Package	188	Bilekahalli	3.5	Nargis	Bilekahalli
87	South Package	189	Hongasandra	6.0	Anif	Hongasandra
88	South Package	190	Mangammanapalya	8.0	Siddiq	Mangammanapalya
89	South Package	174	HSR	7.5	Geetha	HSR
90	South Package	175	Bommanahalli	3.5	Jahagir Husain	Bommanahalli
91	South Package	156	Srinagar	2.0	Waste Pickers/ SHG	Srinagar
92	South Package	166	Karisandra	4.0	Waste Pickers/ SHG	Karisandra
93	South Package	182	Padmanabhanagar	2.0	Waste Pickers/ SHG	Padmanabhanagar
94	South Package	179	Shakambari Nagar	1.8	Waste Pickers/ SHG	Shakambari Nagar
95	South Package	160	R R NAGARA	4.0	Waste Pickers/ SHG	R R NAGARA
96	South Package	026	Ramamurthy Nagar	2.0	Waste Pickers/ SHG	Ramamurthy Nagar
97	South Package	052	K.R. Puram	2.0	Waste Pickers/ SHG	K.R. Puram
98	South Package	147	Adugodi	3.0	Waste Pickers/ SHG	Adugodi
99	South Package	148	Ejipura	3.0	Waste Pickers/ SHG	Ejipura

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Table: List of DWCCs						
No.	**Package**	**Ward No.**	**Name of DWCC**	**Capacity (in Ton)**	**Operated by** (Name of contractor/Association, etc)	**Location**
100	South Package	152	Suddagunte palya	1.5	Waste Pickers/ SHG	Suddagunte palya
101	South Package	150	Bellandur	4.0	Waste Pickers/ SHG	Bellandur
102	South Package	085	Doddanekundi	4.0	Waste Pickers/ SHG	Doddanekundi
103	South Package	145	Hombegowdanagar	4.0	Waste Pickers/ SHG	Hombegowdanagar
104	South Package	183	Chikkalsandra	4.0	Waste Pickers/ SHG	Chikkalsandra

Note: Data presented in Annexure 2 is for indicative purposes only and the Bidder must undertake their own analysis and studies to ascertain the same.

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Annexure 2: Details of proposed sites

(Annexed as part of RFP of respective Package)

Annexure 3: Details of existing solid waste management system in Bengaluru

1. Doorstep Collection

The Primary Objective of BSWML is to see that citizens are provided the services of waste collection and all the discarded material are moved out for processing and disposal before 12.00 noon. The aim is to see that services are delivered early in the morning and waste is segregated by generator, collected and then transported to a processing facility. The objective is to remove discarded materials from inhabited places promptly to prevent the spread of disease, to reduce aesthetic results arising from putrefying organic matter, and, equally important, to dispose of the discarded materials in a manner that is environmentally acceptable

Following are the salient features of the existing Door to Door Waste Collection Services

1. BSWML is providing daily waste collection service to all the households, slums, shops and establishments. Entire collection and transportation activities have been outsourced.
2. Presently 4,900 Auto tippers are collecting waste from various streets, lanes. Roads in the city of Bengaluru.
3. All the primary vehicles i.e. auto tipper will carry the waste from ward level to the transfer station or the refuse compactor stationed at specific locations for secondary collection and transportation of waste to the decentralized facilities or the dumpsite Every 3 to 4 auto tippers are backed by one refuse compactor.

4. The auto tippers are mainly three wheelers with hoppers of (500 kg) capacity. However a few of them are of bigger size. They are manned by 1 driver + 1 helper.
5. Each auto tipper covers 750 households per day which is considered as a block, each auto tipper makes generally 3 trips a day. The average area covered by a ward is around 2 to 3 square kilometres
6. The operation starts from 6:30 AM to 12:30 PM / 01:00 PM. The 3rd trip is dedicated for collection of Street Sweeping Waste and garbage vulnerable points at their allotted ward from 12:30 AM to 2:00 PM. By 2 PM the ward is to be ensured that it is completely cleaned.

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7. These auto tippers are outsourced by BBMP/BSWML. The private partner has to deploy auto tippers and compactors. Each package of single private players service scope encompasses door-to-door waste collection, segregation, collection, and transportation of segregated waste to the nearest transfer station / decentralized processing unit / end - processing unit (composting, dry waste collection centre, or authorized recycler). In the absence of a nearby decentralized plant or any other facilities, waste can be transferred to compactors and then sent to the nearest processing unit or dumping ground.

8. There are 225 wards in the city. Each ward has a different Private Player enraged by BBMP/BSWML. There are majorly 198 Private Players who are responsible for operating in all 225 wards for door step collection and transportation of waste from residential and commercial units. They are also responsible to clear the street sweeping collected heaps.

9. The Private Players engaged by BBMP/BSWML are paid on the invoices submitted by them after evaluation of their services delivered.

10. The Private Players do not collect any user charge from waste generators. Neither BBMP/BSWML has collected any user charge in the past.

11. Apart Self-Help Group's (SHGs) and Residential Welfare Association (RWAs) are also involved in door to door collection, segregation & decentralized composting in some of the areas.

12. They are mainly run by private players mostly under the name of NGO/ Sangha's/ societies/associations. There are approximately 180-250 such groups operating under different areas.

13. In the domain of collection and transportation, several categories of entities are involved in managing waste. For residential areas and apartments with less than 100 flats, the collection process encompasses residential premises and small shops during the first trip, while open points and street waste are addressed during the second trip. Shops and small commercial establishments also fall under the purview of the same contractors. Open points at the ward level are similarly managed by these contractors.

14. Bulk generators, consisting of facilities with more than 100 flats, are also managed by empaneled contractors.

15. Wet waste is collected on a daily basis, while dry waste is collected once in two days or thrice a week.

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16. The terms and conditions with respect to service deliverance and expectation from the private players.

Figure 8: Wet & Dry waste Collection separately

2. Storage & Secondary Collection:

1. Bengaluru city is a bin less city and the bins/ Litter bins are placed only in the commercial areas. The SW collected from Door to Door is brought to a common point from where the waste is transferred to the Disposal sites through compactors & transfer stations.
2. The collected waste needs to go to the nearest dry waste / wet waste collection centre/ transfer station. If the waste is mixed and is in the refusal category by the dry waste/wet waste collection centre/nearest transfer station the same is being transferred to the auto tippers to refuse compactors engaged by the same private player. The refuse compactor transports the waste to the nearest large decentralised processing unit or to the landfill sites.
3. The refuse compactor is of minimum 14 cu m and maximum 18 cu m. Each Refuse compactor is manned by 1 Driver and 1 Helper
4. Solid waste is managed through the existing auto tippers, refuse compactors, dry waste collection centre, wet waste collection centre, transfer station and processing unit and landfill sites.
5. All the primary vehicles i.e. auto tipper will carry the waste from ward level to the transfer station or the refuse compactor stationed at specific locations for secondary collection and transportation of waste to the decentralized facilities or the landfill site.

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Fig 9: Compactors for waste collection

6. Compactors typically undertake a minimum of 1 trip, covering an average of 50 kilometres (round trip), with some refuse compactors making up to two trips per day as needed.
7. There are about 4,600 three-wheeler/ auto tippers and 600 Refuse compactors are deployed for waste collection and transportation.
8. In residential areas or houses, wet waste is collected at the doorstep on a daily basis, while dry waste is collected twice a week using a dedicated vehicle or through door-to-door collection vehicles.
9. In slum areas, waste collection vehicles are stationed at a specific location, where waste generators hand over their waste directly to the vehicle, without the need for helpers using wheelbarrows or 60-liter bins. Resource deployment for this operation consists of one driver and one helper assigned to each auto tipper.

3. Dry Waste Collection Centres (DWCC)

Bengaluru has a unique waste storage and collection system. The Dry Waste which is generally collected every alternate day by the same auto tippers from households every alternate day is stored and collected at Dry Waste Collection Centres (DWCCs) constructed on Government land. Recycling of waste is also possible by setting up purchase / processing centres for dry waste, like plastics, paper, etc. About 119 Dry Waste Collection Centres (DWCC) have been established by BBMP. It is one of its kind and first time in a metro a DWCC concept is established. These DWCC called *Kartavya* – meaning duty that will remind the public of their duty towards recycling the waste they have created. This will be in their own neighbourhood and over a period of time the *Kartavya* centers will become part of the local community fabric

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Fig10: -Dry Waste Collection Centers (DWCC's)

The aim of Dry Waste Collection Centers (DWCC's) is to keep as much waste out of the landfills/waste dumps as possible and to help make waste useful and profitable. DWCC's run by various agencies in Bengaluru in coordination with the BBMP is decentralized bulk sorting and processing facilities. About 185 DWCC's were planned and 114 nos. have been established and 106 nos. are functional currently. DWCCs are set up on municipal/government/private lands and various NGOs, waste pickers, and contractors; self-help groups have been involved for effective functioning. The dry waste generated in the wards is collected and further segregated and sent for recycling from these recycling centres. Receiving in bulk provides these informal sector workers with more significant returns and creates more jobs.

Dry waste materials like batteries, tin cans, plastic-coated milk cartons, nylon, cigarette butts, and leather all take varying lengths of time to degrade: not less than 10 years. Hence, the best way to dispose of these dry waste items is to reuse/recycle them. Nearly 55%-70% of all the dry waste thrown away can be safely disposed of this way

DWCCs is operated by various Agencies / NGO's in coordination with the BBMP is for bulk sorting and forwarding the Dry Waste to authorized recyclers.

Fig 11: Segregation at Dry Waste Collection Centers DWCC's

The DWCCs are categorized based on their size and capacity as follows:

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(a) Small (Up to 1.0 Tons Per Day) – These have a floor area ranging from 80 to 100 square meters.
(b) Medium (1.0 to 2.5 Tons Per Day) – These occupy a floor area between 150 to 200 square meters.
(c) Large (More than 2.5 Tons Per Day) – These have a substantial floor area exceeding 300 square meters.

Prominently, BBMP has partnered with 2 to 3 non-governmental organizations (NGOs) to operate these DWCCs as part of their Corporate Social Responsibility (CSR) initiatives or Circular Economic programs, with organizations such as ITC and GAIL India participation.

The Dry Waste Collection Operators purchase waste materials from Waste Collectors, Rag Pickers, and Bulk Waste Collectors based on a daily price list.

The DWCCs are equipped with multi-story buildings, compound walls, gates, and essential facilities like generators, weighbridges, and specific partitions to support their operations. Also, there are 2 automatic segregation units/machines in a slum area of 10 TPH for segregation of dry waste and recovery of material. These are established by BBMP at a COST of Rs 3.5 crores each. These plants are operated and maintained by private players.

The Example of one of such facility (DWCC) can be seen in the table mentioned below:

Table 2: Dry Waste collection Centers

SL NO.	PARTICULARS	DETAILS
1	Location	Ejipura
2	Year of Commencement	2017
3	Operator	BBMP
4	Zones Covered	Ward no 147 and 148
5	Area of Plant	4,000 sqft approx.
6	Designed Capacity	2.5 TPD
7	Current Operating Capacity	1.5 TPD
8	Facilities Available	i. G + 1 Buildings with Compound Walls / Gate etc. ii. Diesel Generator iii. Small Scale Weighbridge iv. Specific Partitions.
9	No of workers for operating in the plant	6 to 8 Members (Approx.)
10	Supervision In charge	BBMP Ward Supervisor

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11	Recyclable Sale rate	Different rates for different recyclable fractions which are decided by BBMP on a regular basis.

Fig12: Dry Waste Collection Centre (Waste Details Board)

The dry waste collection centres are approximately 4,000 sq. ft in area, with working space of about 10,000 sqft. At Ejipura Location This DWCC facility also serves as Waste Transfer points.

Note: The above existing Dry Waste Collection Centre is similar or for indication of all the other 119 DWCC established by the BBMP.

Although the DWCC's has been established to see that segregated dry waste goes for recycling and utilisation and contribute towards circular economy but in reality, more than 60 – 70% of collected dry waste goes to the Waste to Energy plant as RDF. DWCCs are set up on municipal / Government / private lands and various NGO's, have been roped in for effective functioning.

A separate MOU has been entered into by the BBMP with the operator. In addition, corporate companies are being encouraged to come forward to provide gap funding required under the EPR

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(Extended Producer Responsibility) of such centres and also ensure that the recyclable material is sold through properly created channels to ensure that the recycled goods are not misused.

The DWCC also pays the Pourakarmikas /Public/Waste-picker or any individual who brings the waste to the centres as notified by BBMP from time to time. This encourages the public to segregate the waste at source. Also, a part of the dry waste centres is earmarked to store e- waste collected from the households.

4. Bulk Waste Generator Waste Collection & Transportation

In terms of waste management, Bulk Waste Generators, defined by BBMP as those producing over 100 kg/day or occupying more than 5,000 sq. m, a group of houses / flats of more than 100 Nos in a society. The city's estimated waste generation ranges between 1,000 to 1,200 Tons Per Day (TPD), and these generators are serviced by empanelled contractors responsible for collection under a user charge system.

Following are the major features of the existing solid waste collection system from Bulk Waste Generators in Bengaluru City.

1. The BBMP has notified Bulk Generators to segregate waste into different categories and manage their waste either in-situ or to utilize the services of BBMP Empanelled Service Providers.
2. A separate system has been put in place to collect waste from large waste producers like hotels, restaurants, marriage halls, markets, offices, etc. BWG waste collectors are collecting thse waste.
3. In this regard BBMP is facilitating the Bulk Generators with options of authorized service providers to engage for collection, transportation and processing of SW. SWM Service Provider Empanelment program aims to create a platform for solid waste service providers to enlist themselves. It will also ensure that Bulk Generators can meet the requirement of segregated waste processing in a responsible decentralized way.
4. Empanelment of service providers for various categories of SW has been taken up and the first list has been published empanelling 60 service providers. The empanelment process is continued.
5. The Bulk Waste Generators are directed to store the waste in their premises in a segregated manner.
6. All resources including manpower, equipment, bins, bags and vehicles by the empaneled agencies are engaged by them.
7. The waste is collected in larger vehicles which are mainly of tata 407 type or equivalent. The trips are based on the type of waste and commercialization of the area.
8. BBMP does not make any payment to the emplaned agencies. Neither BBMP collects any user charge from BWG or through the engaged agencies.

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9. The emplaned agencies collect monthly service charges directly collected by the Bulk Waste Collectors.
10. Bulk Waste Generator - Commercial Units (Minimum: Rs 500 Per Month and Maximum – As per the Area of Premises).
11. Bulk Waste Generators – Residential / Flats / Villa (Rs 150 to Rs 200 Per Month).
12. The collected waste is transported to the processing unit/ dumping ground as deemed after taking away all the recoverable material and resources. The collected waste is transported directly to private recycling or processing units such as Material Recovery facilities or Biomethanation plants established by the Carbon Masters, MSGP Plant.

5. Sanitary Waste Management System

The Sanitary waste comes to around 1% of the total Generated SW i.e. 60 Tons Per Day (TPD) approx. As of now there is no such facility to handle and manage Sanitary waste in a scientific manner. However it is collected separately and processed through the bio-medical waste management agencies in four of the zones. Thus, through this project of establishing an ISWM Plant will have the Incineration Facility for these Sanitary waste. The Sanitary waste is collected from apartments, women's hostels and hospital wards.

6. Animal Carcass and Animal Waste

At present, the city generates around 50 Tons Per Day (TPD) in the normal days and 85 Tons Per Day (TPD) of Animal waste in the Peak days like festivals etc. As of now, there is only 1 plant of 4 TPD Capacity each to handle the animal carcass and the animal waste.

7. Transfer Station Management and Secondary Collection and Transportation

Transportation of waste from collection centres to the landfill site is another crucial step in waste management. At present, waste transportation is through auto tippers and in some cases through push carts to primary collection centres. From there, compactors collect the solid waste and transport it to the waste processing facility (Decentralized Wet waste management facility) and the disposal sites/dumping ground. In the first scenario, Auto Tippers deposit waste into the Refuse Compactors located at the Transfer Station or designated open points for loading. These operations are managed by Private Players.

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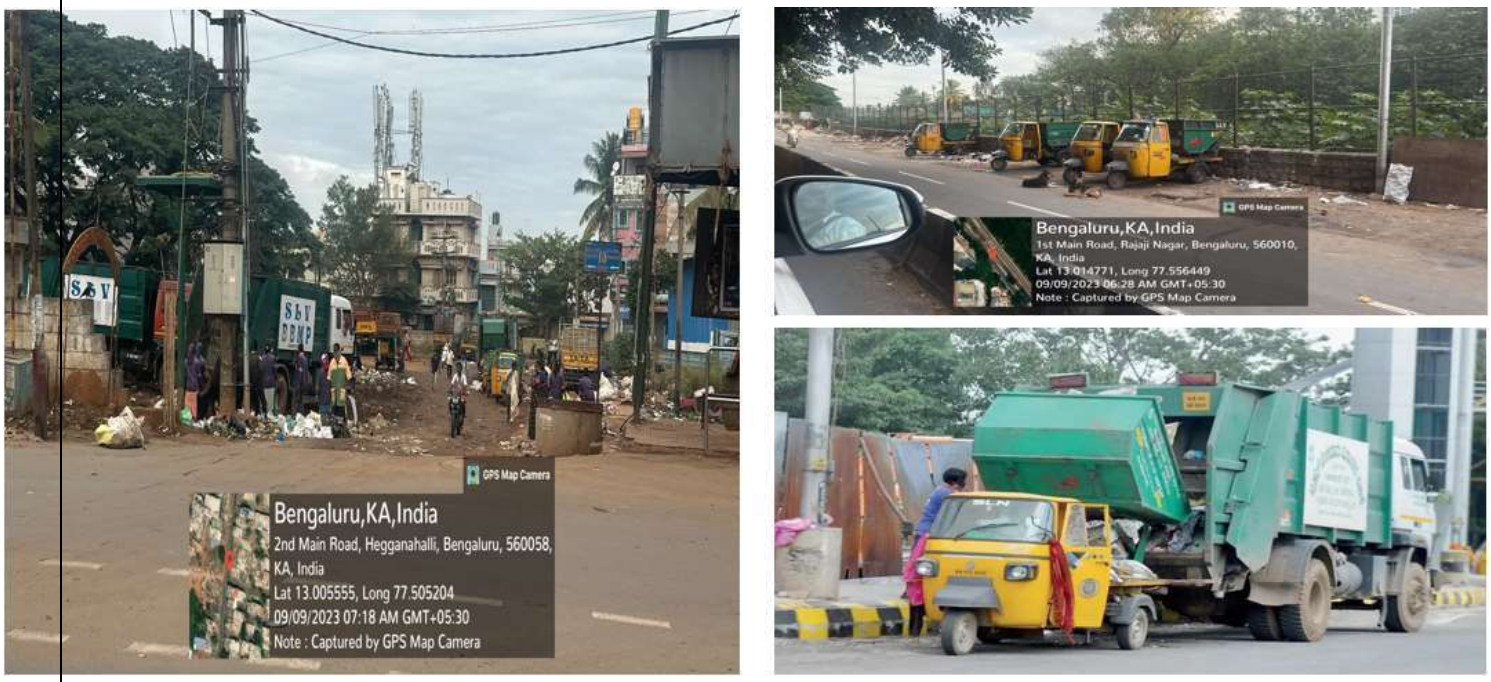
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Note : Captured by GPS Map Camera

Figure 13: Waste Collection Vehicles (Door to Door)

Figure 14: Weighbridge for Inward vehicle weighment and Vehicle parking

There are also mini transfer stations which act as waste collection centres. There are 24 mini transfer stations (25 Tons capacity each). These Mini Transfer Stations were constructed in 2020 and are managed by BBMP through an Engineering, Procurement, and Construction (EPC) and Operations & Maintenance (O&M) contract

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Lastly, the transportation of waste to Decentralized Plants and the dumpsite is carried out by C&T Contractors, who were appointed by BBMP in 2019. And there approximately 580 to 600 nos. of 14 Cubic metres refuse compactors plying for Secondary Transportation from ward to designed decentralized plants or landfills or dumpsite covering a distance of 60 kilometres per day.

This entails one trip per day, covering a distance of 60 kilometres (to and fro) either to an existing processing plant or to the designated dumpsite.

Figure 15: Unloading waste from tipper to Heavy Compactor Vehicle

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8. Road Sweeping

1. The sweeping is performed both manually & mechanically. In some of the highly commercial activity areas sweeping is done during night.
2. BSWML through BBMP undertake Street Sweeping. The street sweeping of the roads maintained by BBMP is mainly done by manual method.
3. Approximately BBMP has 13,000 Kms of roads of various types in the city of Bengaluru.
4. The street sweeping is done by Pourakarmikas of the Bruhat Bengaluru Mahanagara Palike. Nearly 18,500 Pourakarmikas are deployed for manual sweeping of the roads.
5. A few stretches of roads are also swept by Mechanical Road Sweeping Machines. They are used to sweep the Main Roads and bus routes of Bengaluru.
6. The swept material is collected in heaps in various wards. The collected heaps are transferred by Pourakarmikas / auto tippers to the nearest disposition centre. The disposition centre is generally the nearest auto tippers / waste collection centres. The Pourakarmikas and swept waste collection system is working in synchronisation to ensure that no vulnerable points and eye sore are created in the area.
7. BBMP (as per the GO UDD 126 TMS 2016 dated 7th August 2017), pays separately for the services of sweeping undertaken. This includes payment to Pourakarmikas and other associated infrastructure equipment.
8. There is no private player engaged in manual sweeping work undertaken by BBMP.

9. Existing Solid Waste Processing & Disposal System

Over a period of time in the last two-decade BBMP has practised a mix of centralised and decentralised processing and disposal of waste. The major focus has been resource recovery with more effort on decentralised processing of waste. BSWML through BBMP has set up a number of dry waste collection centres (119) and a number of wet processing units of various sizes (8 Facilities). The effort has been to see that waste does not get transported to larger distances and it gets treated in-situ.

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While effort to treat the waste has been enormous the outcomes have not been to the level with increasing growth of the city and burgeoning problem of waste generation. This has led to no large scale of any appropriate scientific treatment techniques for waste generated by the corporation. This has led to the filling of the quarries and there by dumping of waste.

The solid waste, generated from hotels, restaurants, Kalyana mandapas, markets, etc., is being directly collected and transported to the various processing units / treatment/disposal facilities.

As on date Bengaluru has multiple waste processing units where waste is processed mostly through Composting and Bio-methanation Process.

Figure 16: Biomethanation Plant - 2

Figure 17: Biomethanation Plant - 1

To process wet waste, 5-ton capacity Bio-methanation plants are being established at 16 locations, out of which 4 have been made functional. The biogas generated from these plants is being utilized to light the street lights in that locality

9.1 Processing Plants (Decentralized Facility for Wet Waste)

Sl. No.	Name/location of the plant	Land area (in acres)	Design capacity in (TPD)	Existing capacity (wet waste)	Average waste processing	Ownership of the plant	Components available in plant
1	Chikkangamangala	25	500	350	245	BBMP	Compost
2	Doddabidarakallu	10	200	150	79	BBMP	
3	KCDC	10	500	350	150	BBMP	
4	Kanahalli	22	500	350	350	BBMP, Private (Sateram)	
5	Lingadheeranalli	10	500	120	60	BBMP	
6	Seegehalli	8	200	150	100	BBMP	

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7	Subbarayanapalya	10	200	150	16	BBMP	
8	Koramangala	2	5+8(augmented from 5 to 8)	5+5	13	BBMP, PRIVATE	Biomethanation
Total			2263	1630	1013		
9	MSGP	75	-	750	700	Private MSGP	It is also processing waste of BWG's

Table 3: Processing Plants Centres

There are 8 Nos of Wet Waste / Processing facilities established by BBMP for 7 units through EPC contracts for about Rs. 450 crores and one by private (MSGP).

The projects were mainly designed for the treatment process of wet waste through anaerobic composting and bio methanation. As on date they are able to treat 1450 TPD of the waste. The untreated waste is transported to the dumping ground. BBMP has enraged their own staff or engaged through contract for the operation and maintenance of these plants.

One notable features of some of the processing and treatment plants is that plants lack infrastructure from treatment of leachate in most of the cases, thereby leading to the likelihood of leachate moving out of the plant premises without treatment.

Table 4: Existing Wet waste facilities

SL. NO.	NAME/LOCATION OF THE PLANT	LAND AREA (IN ACRES)	DESIGN CAPACITY IN TPD	EXISTING CAPACITY (WET WASTE)	AVERAGE WASTE RECEIPT	OWNERSHIP OF THE PLANT	COMPONENTS AVAILABLE IN PLANT
1	Kannahali	22	150	350	283	PRIVATE	compost
2	MSGP	75	-	750	700	PRIVATE	Compost, RDF, LTP and Sanitary landfill

A 10 TPD unit to convert the organic waste into biofuel through palletisation at Ward No 94, adjacent to Freedom Park, Gandhinagar, West zone by M/s CIPL Resurge Private Limited (CRPL) is commissioned from Dec 2014.

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Figure 18: Wet Waste Process Facility

10. Existing Landfill Site

Open Disposal / Landfill site Management:

As on date there is one land where waste landfilling is happening, which is a quarry at Belahalli/Mittaganahalli. There are other landfill sites viz: one at Mavallipura which is under closure - 140 acres and the other at Mandur which is at 135 acres, and also at Bingipura.

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Bengaluru grapples with landfill management challenges stemming from a surge in waste production and limited waste processing capacity, resulting in merely 30 to 35% of waste being effectively processed. The temporary closure of established landfills like Mandur and Mavallipura is attributed to environmental concerns.

Figure19 :Existing Dumping Ground

Approximately 3000 TPD is being dumped as on date. Last August 2023 onwards waste dumping has been 3200-3500 TPD approximately.

The Mittaganahalli landfill site is the active landfill site which is in an open quarry and is receiving most of the waste as on date. The Mittaganahalli landfill site is an open quarry with two parcels of land spread to the extent of 35 acres + 15 acres situated in the Yelahanka Zone, which receives 3,600 tons of mixed on a daily basis. The entire waste received at this dumpsite is not processed nor treated, but landfilled into the pits / open area. The open pits are lined with HDPE liners to avoid groundwater percolation. Once the quarries are filed BBMP intends to close the dump ground by scientific capping procedure to restrict the contamination of soil, water and air. But the notably absence of proper

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leachate management and gas extraction systems, leading to detrimental consequences affecting nearby communities.

<table>
<tr><th>SL NO.</th><th>PARTICULARS</th><th>DETAILS</th></tr>
<tr><td>1</td><td>Location</td><td>Yelahanka</td></tr>
<tr><td>2</td><td>Coordinates</td><td>Latitude: 13.11022
Longitude:77.64992</td></tr>
<tr><td>3</td><td>Year of Commencement</td><td>2017</td></tr>
<tr><td>4</td><td>Operator</td><td>Land capping is done by Private Contractor (Sudarshan Raju)</td></tr>
<tr><td>5</td><td>Zones Covered</td><td>From all the parts of Bengaluru</td></tr>
<tr><td>6</td><td>Area of Site</td><td>54 acres</td></tr>
<tr><td>7</td><td>Used land</td><td>39 acres</td></tr>
<tr><td>8</td><td>Available land</td><td>15 acres</td></tr>
<tr><td>9</td><td>Existing Facilities</td><td>
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<tr><th>NAME OF FACILITY</th><th>YES / NO</th><th>REMARKS</th></tr>
<tr><td>Compound wall</td><td>No</td><td></td></tr>
<tr><td>Security room</td><td>Yes</td><td>For 6 Marshals</td></tr>
<tr><td>Weighing Bridge</td><td>Yes</td><td></td></tr>
<tr><td>LTP</td><td>Yes</td><td></td></tr>
<tr><td>Workshop</td><td>No</td><td></td></tr>
<tr><td>Green belt</td><td>No</td><td></td></tr>
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Note: Waste has been dumped in between 2 existing quarries.
</td></tr>
<tr><td>10</td><td>No of workers for operating the plant</td><td>No clarity</td></tr>
<tr><td>11</td><td>Supervision In charge</td><td>BBMP</td></tr>
<tr><td>12</td><td>Satellite Imagery</td><td>
</td></tr>
</table>

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The present condition at Mittaganahalli landfill site is that phase # 1: Dumpsite is Covered with Clay (Capping process in progress) and phase # 2 : Liners Installed and Mixed Waste is dumped without any process. The site is having noncompliance in all other aspects. there are constant odors and methane gas is open to environment

Figure 20: Present condition at Mittaganahalli dumping ground

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Figure 21: Present condition at Bingipura dumping ground

11. Summary of the above Existing Facilities:

The summary of the existing scenario within BBMP limits is as follows

The existing scenario:

1. Wards: 198
2. Population:1.32 cr. (excluding Floating Population)
3. Households (residential including slums and but excluding Bulk waste generators): 27,94,724
4. Commercial establishments other than bulk waste generators:3,07,774
5. Total Households: 31,02,498
6. Waste being transported in the existing mechanism
    a. Domestic: 4000 TPD

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b. Small Commercial other than bulk waste Generators: 1530 TPD
c. Total: 5530 TPD

7. Total Auto Tippers with 750 Kgs to- 1000 Kgs for primary collection:

Auto tippers (1 per block; daily collection)	Extra AUTO for markets / leaf litter / slum / high profile areas	Autos required (1 per 1750 units; bi-weekly collection)	Extra autos for commercial Night Collection (Non-Bulk Collection)	TOTAL
4,900	41	596	4	5,000 TPD

8. Compactor

WET Waste Compactor (10 Tonnes)	Reject + Mixed Waste Compactor (10 Tonnes)	TOTAL COMPACTORS (10 Tonnes)
319	320	639

9. Existing processing quantities and its processing facilities

a. **Compost:** 2300TPD (designed) 1630 TPD (on an average)
b. **RDF segregation:** 119 DWCCs generating 120 TPD
c. **Bio Methanation:** 5 TPD capacity of 7 under upgradation and 4 of new plants of 5 TPD under execution stage
d. **WTE:** 600 TPD (RDF) incineration to generate electricity is in the final stage of the execution

10. Old Dumpsites and its capacities

S No.	Locations	Area	Status
1.	Mavallipura	138 acres	Closed
2.	Kannur	10 acres	Closed
3.	Mandur	135 acres	No Processing > No Landfill, WTE is under planning
4.	Bellahalli quarries		Closed
5.	Kannuru quarries		Closed

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6.	Mittangahalli		Dumping Going on
7.	doddabidarakallu		Closed
8.	Subarayanpalya		Closed

11. Compost processing plants details

Sl. No.	Name/location of the plant	Land area (in acres)	Design capacity in (TPD)	Existing capacity (wet waste)	Average waste processing	Ownership of the plant	Components available in plant
1	Chikkangamangala	25	500	350	245	BBMP	Compost
2	Doddabidarakallu	10	200	150	79	BBMP	
3	KCDC	10	500	350	150	BBMP	
4	Kanahalli	22	150	350	350	BBMP, Private (Sateram)	
5	Lingadheeranalli	10	500	120	60	BBMP	
6	Seegehalli	8	200	150	100	BBMP	
7	Subbarayanapalya	10	200	150	16	BBMP	
8	Koramangala	2	5+8 (augmented from 5 to 8)	5+5	13	BBMP, PRIVATE	Biomethantion
Total			2263	1630	1013		
9	MSGP	75	-	750	700	Private MSsGP	It is also processing waste of BWG's

Table 6: Compost Processing plant details